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SUBTLE ENGINES: THE POETICS AND POLITICS OF EARLY MODERN MACHINES

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**SUBTLE ENGINES: THE POETICS AND POLITICS OF EARLY MODERN
MACHINES**

TULLIA GIERBERG

DOCTORAL THESIS SUBMITTED IN CANDIDACY FOR THE
DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF ENGLISH
KING'S COLLEGE LONDON

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ABSTRACT

Early modern machine culture bridges a gap between mechanical and rhetorical forms of wit – between *technē* and *poiēsis* or the sciences and the arts – and as such constitutes an important repository for our understanding of the period’s polysemous forms of literary production. This thesis uncovers and investigates some of the as-yet little examined textual lives of an eclectic array of instruments, engines, machines, and mechanisms in the works of Spenser, Jonson, Milton and their contemporaries, exploring the literary, political, and religious implications of mathematical instrument-making, the rise of the new science, and the advent of the mechanist philosophy. Both as metaphors and as rhetorical strategies, machines – and the narratives of cultural authority attaching to them – offer writers and inventors a means not only of intervening in public controversy, but also and especially of creating new and various forms of political agency.

Mathematical instruments exert a particularly powerful influence on the political imagination of Tudor England, I argue in my first chapter. Throughout the period, the elaborate iconographies of globe and astrolabe in particular speak to us of the making – and expose the limits – of contemporary political fictions, surviving as extravagant records of personal and national ambition. For Edmund Spenser, contemporary machines and engines hold important potential as metapoetic devices. In *The Faerie Queene*, a number of ‘subtile engins’ closely allied with interrelated notions of linguistic and spiritual artifice serve to distance the poem’s moral allegory from the mechanisms of its own production, enabling Spenser to reflect upon and mediate the vexed politics of literary invention in post-Reformation England.

Ben Jonson, meanwhile, conceives of machines as rhetorical strategies for

socio-political commentary. His unique and lasting interest in – and hostility towards – Cornelis Drebbel and the magico-mechanical marvels he introduced at the Jacobean court represents primarily a response to changing attitudes towards cultural authority during the early Stuart reign, precipitated by new technologies and ideas about the nature of invention on the one hand, and by the advent of Galilean astronomy and a number of spectacular visual technologies on the other.

Early modern prosthetics and emergent visions of the Cartesian body-machine inaugurate surrogate kinds of textual agency in the political and religious polemics of the Civil War. In Royalist invective, historical, medical and proverbial attitudes towards prosthetic hands in particular serve to restore broken Royalist identities, sustain textual critiques of Parliamentary rebellion, and ultimately enable the post-Restoration rewriting of the Interregnum as an artificial graft upon the nation's body politic. At the same time, various existing and emergent notions of the early modern automaton give rise to a polemical counter-narrative in the political and religious prose of John Milton, who seeks to exert authorial control over the monarchy's self-validating rhetorical mechanisms by implicating the Caroline state in the machine's ontological determinacy. For him, as for the other writers I study, to uncover the rhetorical potential of machines is to (re)discover the animating power of the written word.

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NOTE ON THE TEXT

When quoting from early modern texts other than the works of Spenser, Jonson, and Milton I have used original editions wherever possible. Unless a specific shelfmark has been provided, the material used is available and has been accessed on EEBO (Early English Books Online). In quotations, I have retained early modern punctuation and spelling throughout. For the sake of clarity, I have added letters omitted in the original typescript in cursive (rendering *occasiō* as ‘occasion’, for instance). The titles of my early modern sources are generally provided in abridged versions, unless the full title contains relevant information; original spelling and capitalisation have been preserved throughout. I use modern scholarly editions of the works of Spenser, Jonson, and Milton. Of these, only *The Cambridge Edition of the Works of Ben Jonson* (2012) modernises Jonson’s original spelling.

INTRODUCTION

LITERARY ENGINES

In his *Treatise of Metallica* (1612), the ingenious yet tragically hapless linguist, inventor and projector Simon Sturtevant (c. 1570-1624?) proposes a new method for making ‘*all kinde of Mettles or Metalique substance, with Pit-coale or Sea-coale*’.

This, he reckons, will afford the prospective partners a yearly income of ‘330.

thousand pounds, immediatly after the two first yeares’.¹ Not unreasonably,

Sturtevant is anxious to assure his readers ‘that the Authour is able to effect the

worke vndertaken, in as ample manner as hee propoundeth’. In the process, he

stretches the early modern concept of invention to its limits, revealing a suggestive

analogy of textual and mechanical forms of making. He writes:

First the Inuentioner by his study, industrie, and practise, hath already brought to passe and published diuerse proiects and new deuises, aswell Litterall as Mechannicall, very beneficiall to the common-wealth. His Literare Inuentions doe appeare and are knowne partly by his Printed Treatise of *Dibere Adam*, which is a Scholasticall engin *Aucomaton*, and partly in diuerse other Manuscripts which he hath to shew. His new Mechanicks already performed, are to bee seene in the Inuentions which hee calleth by the names of *Pressewares*, *Wood-pleits*, *Ballance*, *Engin*, *Baramyha*, and *Hubla*, of all which in priuate speech hee is ready more largely to conferre, and to manifest their truth and goodnesse at his Workehouses at Islington and Highbury.²

What is especially remarkable about this passage is the fact that Sturtevant seeks to

prove his technical skill by invoking ‘his Printed Treatise’ and ‘diuerse other

Manuscripts which he hath to shew’. He makes no discernible difference between

¹ Simon Sturtevant, *Metallica. Or The Treatise of Metallica* (London, 1612), sig. ¶3^r; STC 23411. I owe this find to Jessica Wolfe’s *Humanism, Machinery, and Renaissance Literature* (Cambridge: Cambridge University Press, 2004), p. 3. Sturtevant’s seemingly boundless energy and inventiveness did him little good. He spent at least ten years in debtors’ prison and died a poor man. See William H. Sherman, ‘Patents and Prisons: Simon Sturtevant and the Death of the Renaissance Inventor’, *Huntington Library Quarterly*, 72.2 (2009), 239-56 (pp. 240, 255).

² Sturtevant, *Metallica*, sig. A^r.

‘Mechanicall’ and ‘Literare’ inventions or ‘deuices’. Both are the products of ‘study, industrie, and practise’. In his mind, a literary work (in this case, his 1602 Hebrew dictionary *Dibre Adam*, which he describes variously as a ‘Scholasticall instrument’, an ‘Inuention’, a ‘Deuice’, and a ‘literarie Engine’) lives on a shared spectrum of cultural production with ‘His new Mechanicks’ (‘*Pressewares, Woodpleits, Ballance, Engin*’, as well as the enigmatically named ‘*Baramyha*’ and ‘*Hubla*’).³ The one lives on the printed page, the others ‘manifest their truth and goodnesse at his Workehouses’. Both environments represent experimental spaces for related textual and mechanical forms of invention that differ in material circumstance, but not in kind or quality.

Sturtevant’s intriguing, albeit slightly overburdened, description of his Hebrew dictionary as a ‘Scholasticall engin *Aucomaton*’ is interesting in its own right. Jessica Wolfe reads the strange coinage as a conflation of the words *automaton* and *auctor*, the Latin word for author, scholar, or originator.⁴ It seems that for Sturtevant, the translation of ancient languages constitutes more than a philological act of recovery. For him, it is also an act of invention, of making or originating anew, which is predicated upon a notion of authorial agency that will be of particular importance to many of the writers and inventors whose works I examine in this thesis.⁵ But for the moment I am especially interested in the fact that both in the *Dibre Adam* and in *Metallica* the worlds of *technē* and *poiēsis* – of textual and mechanical kinds of making – coalesce effortlessly into a single assertion of human ingenuity. The exact mechanism that Sturtevant envisions for the *Dibre* is a little

³ Simon Sturtevant, *Dibre Adam, Or Adams Hebrew Dictionarie* (London, 1602), pp. 14, 19, 32; STC 23409.

⁴ Wolfe, p. 3.

⁵ On the close relationship of invention and (re-)discovery in the Renaissance, see Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (London/New York: Routledge, 2007), p. 174.

difficult to reconstruct. It involves ‘*three seuerall plaine rulers*’ fastened to its pages, each of which ‘*hath vnderneath the Instrument his seuerall spring, wherevpon he moueth*’. Apparently, these are meant to be shifted across the page, which causes single syllables of the Hebrew to combine into different words. These can then be committed to memory. As a consequence, the operation of the dictionary requires ‘*the speedie motion, and turning of a hand*’.⁶ Reading – and studying – here turns into a materially and technologically conditioned practice. Conversely, the various ‘Mechanicks’ Sturtevant alludes to in *Metallica* depend upon ‘priuate speech’ and verbal communication to unfold their true worth. Throughout his publications, he conflates literary and mechanical registers in order to valorise ‘the worke’ of invention. One seems incomplete without and inseparable from the other. This thesis argues that mutually constitutive relationships of text and machine such as these inform the work of literary production throughout the late sixteenth and seventeenth centuries.

This claim is partially borne out by the Swedish engineer Christopher Polhem (1661-1751). His so-called mechanical alphabet stands in inverse proportion to Sturtevant’s ‘Scholastical engin *Aucomaton*’. Conceived as a didactic tool for his Laboratorium Mechanicum (1697), Sweden’s first school of engineering and technology, the mechanical alphabet consisted of a series of wooden models describing a range of technical design elements.⁷ If for Sturtevant to learn a language was to mechanically assimilate its constituent parts (that is, individual words or even syllables), for Polhem the study of engineering and technology clearly resembles the acquisition of literacy. The mechanical alphabet suggests that for him, to grasp the fundamental building blocks of the craft of engineering that his mechanical letters

⁶ Sturtevant, *Dibre Adam*, pp. 19-21.

⁷ ‘Christopher Polhem’, *Tekniska Museet, Stockholm* <<http://www.tekniskamuseet.se/1/2423.html>> [accessed 2 June 2014].

represent is to be (technologically) literate. Between these two very different inventors, early modern mechanical culture emerges as a matrix for related forms of cultural, intellectual, and literary production.

In fact, as I will argue here, it bridges a gap between mechanical and textual forms of wit, between *technē* and *poiēsis*. As such, it constitutes an important repository for our understanding of the period's polysemous forms of (literary) invention. This thesis uncovers some of the less well-studied textual lives of various instruments, engines, machines, and mechanisms in the literature of the period c. 1550-1675, exploring the impact sixteenth-century instrument culture, the rise of Galilean astronomy, and the advent of the mechanist philosophy had on the (literary and mechanical) imagination of the period. I investigate the ways in which literary and technical kinds of wit collide in creative alliances and antagonisms, and assess the poetically, politically, and religiously charged meanings these inspire in the works of Spenser, Jonson, Milton, and their contemporaries. Like Sturtevant's 'Scholasticall engin *Aucomaton*', machines – and the narratives of cultural authority attaching to them – offer writers across the spectrum a means not only of intervening in public controversy, but also and especially of creating new forms of textual agency. For most of them, to uncover the rhetorical potential of machines is to make words matter.

CRITICAL ENGINES

My project contributes to the relatively recent wave of cross-disciplinary criticism devoted to the interrelationship of early modern literature and what has been termed 'technoscience'.⁸ It draws upon the insights generated by several fields of study,

⁸ Pamela H. Smith, 'Science on the Move: Recent Trends in the History of Early Modern Science', *Renaissance Quarterly*, 62 (2009), 345-75 (p. 358). The term 'technoscience' is meant as a reflection

including the histories of science and technology, literature and science, material culture, as well as the discrete critical traditions associated with Spenser, Jonson, and Milton. In so doing, this thesis builds upon and departs from existing criticism in various ways. Until fifteen or so years ago, interdisciplinary study at the nexus of literature, science, and technology was haunted – and significantly hampered – by the ghosts of C. P. Snow’s two cultures.⁹ Since then, a new or ‘third culture’ has been postulated, promoting ‘the study of scientific texts alongside those of literature’.¹⁰ Situating themselves within an emergent critical narrative of early modern pre-disciplinarity, there have been a number of highly stimulating and lively recent works invested in the idea of a neglected literary and ‘imaginative history of technology’.¹¹ These include Jonathan Sawday’s *Engines of the Imagination* (2007), and Jessica Wolfe’s substantial 2004 study of the interrelationship of *Humanism, Machinery, and Renaissance Literature*, in which she explores ‘the ideational role that machines play in sanctioning or condemning instrumentality and artifice’.

on the pre-disciplinary nature of early modern science and the various (and from a modern perspective often decidedly non-scientific) pursuits it incorporated. It attempts to convey that modern disciplinary divisions into history of science, history of technology, literature and science, or perhaps even just literature do not apply in the early modern period.

⁹ Recent state of the field surveys pertaining to the history of science and to literature and science include Leah Knight, ‘Historicising Early Modern Literature and Science: Recent Topics, Trends, and Problems’, *Journal of Literature and Science*, 5.2 (2012), 56-60; James J. Bono, ‘Making Knowledge: History, Literature, and the Poetics of Science’, *Isis*, 101.3 (2010), 555-59; Smith, pp. 345-49; Howard Marchitello, ‘Science Studies and English Renaissance Literature’, *Literature Compass*, 3.3 (2006), 341-65. See also Carla Mazzio, ‘Shakespeare and Science, c. 1600’, *South Central Review*, 26.1-2 (2009), 1-23. Her survey of recent developments in Shakespeare and science is also of interest to non-Shakespeareans.

¹⁰ Sally Shuttleworth, ‘Historicism, Science and the Dangers of Being Useful’, *Journal of Literature and Science*, 5.2 (2012), 61-66 (p. 63). James Holmes has drawn attention to the methodological challenges the interdisciplinary study of literature and science/technology has generated. He rightly points out that literary scholars, whose conclusions about any given author’s knowledge of and interest in science is often arrived at by inference, cannot produce definitive statements of the kind historians of science can. But they can reconstruct an imaginative history of science and contribute to our understanding of the past in this way. James Holmes, ‘Literature and Science vs History of Science’, *Journal of Literature and Science*, 5.2 (2012), 67-71 (pp. 67-68).

¹¹ Sawday, p. xvi. See also Adam Max Cohen, *Technology and the Early Modern Self* (New York: Palgrave Macmillan, 2009), and Elizabeth Spiller, *Science, Reading, and Renaissance Literature: The Art of Making Knowledge, 1580-1670* (Cambridge: Cambridge University Press, 2004). I strongly agree with Spiller’s notion of a ‘shared aesthetics of knowledge’ traceable in early modern literature and science, both of which display ‘a commitment to creating and expressing knowledge through the practice of art’, p. 3.

Throughout this thesis, I build upon Wolfe's insight that 'machinery lurks in the interstices of the Renaissance imagination' and that 'its meanings are formed out of an interplay with the culture's aesthetic and political sensibilities and its philosophical dilemmas'.¹²

More recent studies have tended either to foreground the literary aspects of scientific and mechanical discourse, or, conversely, the scientific and mechanical aspects of literary practice. But few have attempted to do both, or to uncover the poetic, political, and religious implications of these interactions, as I do here.¹³

Drawing on Lorraine Daston's conceptual work on talking things, I seek to address this imbalance by considering both texts and machines as 'stories that are actively made'.¹⁴ Thus, whilst this thesis explores how texts 'press [mechanical] things into speech, talk through things', it also attempts to find out how early modern machinery presses text – or rather subtext – into material form, how machines talk in, through,

¹² Wolfe, pp. 6-7.

¹³ To my knowledge, Simon Schaffer and Steven Shapin's *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press, 1985), represents the first attempt to relate scientific pursuits to ideological, social, and political controversy. Claire Preston has recently sought to explore the literary aspects of scientific discourse in an essay on 'literary science' in the seventeenth century, in which she argues that 'A striking and universal feature of scientific writing [...] is its interesting and often uneasy relation to rhetorical tropes, narrative structures, and figurative language'. According to her, seventeenth-century scientists harnessed 'rhetoric and the rhetorically assisted and stimulated imagination as the way to precise and perspicuous expression of matters of experimental and observational fact'. Claire Preston, 'English Scientific Prose: Bacon, Browne, Boyle', in *The Oxford Handbook of English Prose, 1500-1640*, ed. by Andrew Hadfield (Oxford: Oxford University Press, 2013), pp. 268-310 (pp. 269-70, 272). Howard Marchitello conceptualises literature and science as related and mutually sustaining forms of knowledge production. He sets out to '[submit] the literary text to the methods of natural philosophy and the natural philosophical to the methods of literary analysis', thereby hoping 'to demonstrate just how thoroughly imbricated are these two discourses'. However, despite these important conceptual insights, much of his study is in fact devoted to tracing scientific narratives and methodologies in the literature of the period. It seems less overtly concerned with investigating the literary aspects of scientific practice. Howard Marchitello, *The Machine in the Text: Science and Literature in the Age of Shakespeare and Galileo* (Oxford: Oxford University Press, 2011), p. 19. Cf. Adam Max Cohen, *Shakespeare and Technology: Dramatizing Early Modern Technological Revolutions* (New York/Basingstoke: Palgrave Macmillan, 2006).

¹⁴ Lorraine Daston, 'Introduction: Speechless', in *Things That Talk: Object Lessons from Art and Science*, ed. by Lorraine Daston (Brooklyn, NY: Zone Books, 2004), pp. 9-24 (p. 24). Laura Otis, 'Science Survey and Histories of Literature: Reflections on an Uneasy Kinship', *Isis*, 101.3 (2010), 570-77 (p. 573). Laura Dassow Walls considers literary and scientific texts as 'performances that weave together discursive and material elements, giving language to matter, both making, and becoming, "things that talk"'. Laura Dassow Walls, 'Of Atoms, Oaks, and Cannibals; or, More Things That Talk', *Isis*, 101.3 (2010), 590-98 (p. 590).

and as texts in their own right.¹⁵ Perhaps the most important contribution I seek to make here is not just to illustrate the various metaphorical functions that machines performed in the texts of the period c. 1550-1675, but to identify specific moments in which mechanical and rhetorical devices mutually sustain each other.¹⁶ This is where my study differs from the ones I mentioned above. In the following chapters, we will come to appreciate how Spenser, Jonson, Milton and their contemporaries exploit the close affinity of engine and allegory, of optical illusion and allusion, of mechanical prosthesis and synecdoche, or of automaton and tautology for literary effect. Bridging the gap between material and textual kinds of invention (between *technē* and *poiēsis*), these pairings articulate related fantasies – or, rather, strategic fictions – of authorial and political agency. But above all, they help authors to think and express themselves about their world.

‘ALL MACHINES, NEW AND OLD’

In his widely acclaimed *A History of the World in 100 Objects* (2010), and more recently in *Shakespeare’s Restless World* (2012), Neil MacGregor has successfully demonstrated how object-led scholarship can lead to a more comprehensive understanding of our literary and material past. In the latter, he envisions a ‘three-way conversation between the objects themselves, the people who used or looked at them, and the words of the playwright which have become such an embedded part of our language and our lives’.¹⁷ For reasons of scope and time my own project largely

¹⁵ Ibid., p. 592.

¹⁶ Juliet Cummins and David Burchell recognise that ‘the impact of natural philosophy on the early modern intellectual landscape depended on the effective use of rhetorical and even dramatic techniques to communicate and develop new ideas’. But on the whole their collection of essays does not venture in the arena of political controversy as I do here. Juliet Cummins and David Burchell, ‘Ways of Knowing: Conversations between Science, Literature, and Rhetoric’, in *Science, Literature, and Rhetoric in Early Modern England*, ed. by Juliet Cummins and David Burchell (Aldershot, UK/Burlington, VT: Ashgate, 2007), pp. 1-14 (p. 2).

¹⁷ Neil MacGregor, *Shakespeare’s Restless World* (London: Allen Lane, 2012), p. viii.

ignores the works of Shakespeare. But by combining the knowledge generated by historians of science and technology with the insights afforded by literary analysis, I have sought to adopt a similar research strategy.

The structure of this thesis reflects its underlying assumptions about the interrelationship of early modern poetics and mechanics. In Parts 1 and 3 (which consist of Chapters 1-2 and 4-5 respectively), I revisit the works of Spenser and Milton alongside those of early modern engineers and inventors, natural philosophers and mathematicians, polemicists, scientists, and theologians in order to show how both real and imagined machines produced poetically, politically, and religiously charged meanings in Elizabethan and revolutionary England. The focus here is divided between chapters that attempt readings of specific machines and chapters that analyse literary texts in light thereof. Part 2 (the single and slightly longer Chapter 3) occupies a somewhat special place in the scheme of my thesis because as far as I have been able to ascertain, Ben Jonson is the only one of my authors to acknowledge and entertain a specific (literary) relationship with a contemporary inventor.¹⁸ It combines analysis of early seventeenth-century mechanics and science with literary criticism. Thus, while each chapter offers a self-contained case study of one or several interactions between machine and text in the period, together they seek to tell an alternative history of the literary, political, and religious debates of the late sixteenth and seventeenth centuries.

In my first chapter, I attempt what can be termed an instrumental history of Tudor politics in the second half of the sixteenth century by exploring some of the

¹⁸ I have chosen to revisit the works of Spenser, Jonson, and Milton because as important literary figures working during three crucial periods in the history of early modern England they represent something to us about the prevailing literary tastes and sensibilities of their respective times. Although the literary effects they achieve by harnessing the metaphorical potential of various machines in their works are unique, their attitudes towards mechanics nevertheless reflect larger contemporary concerns and assumptions. For these reasons they are of particular use to me here.

ideologically charged functions that mathematical instruments could be made to perform. Throughout, I seek to draw attention to the value of treating instruments as important historical documents with implications for our understanding of the construction and perpetuation of political identity in the period. In the first part of my chapter, I investigate the role that geographical globes, specifically, the Molyneux globes of 1592, played in the articulation and perpetuation of late Elizabethan dreams of a naval empire in the North Atlantic. By weighing the narrative of geopolitical expansion and imperial might inscribed upon the surface of Molyneux's terrestrial globe against some of the evidence that survives of its reception, I seek to shed new light upon some of the mutually sustaining – and mutually vexing – relationships between political and instrument-making cultures in the period.

In the second part, I extend this method to include some of the Tudor era's most iconic astronomical instruments, suggesting that as specialist tools associated with exclusive kinds of knowledge they lent themselves particularly well to the communication of intellectual and political virtues. We will see the fall of Protector Somerset and the rise of the Duke of Northumberland cast long shadows over the artificial universe presented to Edward VI in 1552 in the form of a Gemini astrolabe. We will read Robert Devereux's self-transformation from soldier into one of Elizabeth's most powerful courtiers in the gilded-brass pages of his astronomical compendium. And with Robert Dudley, the future Earl of Leicester, we will play a Tudor game of thrones, paying an elaborate kind of homage to Queen Elizabeth I. As I will maintain throughout, together the devices I survey in this chapter constitute important records of political change and ideological power-play in the formative years of the English Renaissance.

For Spenser, the appeal of the machine lies primarily in its use as a

metapoetic device. In his epic poem, *The Faerie Queene* (1590, 1596), it bridges the gap between reason and imagination within which allegory was thought to operate. In Chapter 2, I investigate a variety of allegorically charged alienation effects (*Verfremdungseffekte*) that the word ‘engine’ and etymologically related concepts of ingenuity (*ingenium*) or poetic wit generate especially in Books I, II, and V. As we will discover, here an eclectic array of instruments, machines, and engines serve to mediate the potentially dangerous gap between legitimate image and deceptive idol that vexed the literary project of post-Reformation England. By revealing themselves ‘as things made’, the various mechanical devices that litter the allegorical land- and mind-scapes of *The Faerie Queene* not only announce their own artifice, but they also expose the poem’s underlying allegorical mechanisms.¹⁹ These include the ‘subtile engins’ of poetic ingenuity that overcome the forces of error in Book I; Phaedria’s little-discussed automatic boat in Book II, which serves to temper the pleasures of ‘painted forgery’ that threaten its allegory of temperance; Malengin’s wily transformations; and the Egalitarian Giant’s scales in Book V, canto ii, which poignantly reflect on Spenser’s literary achievement in balancing the period’s residual suspicion of verbal images with its reification thereof in poetic theory.²⁰ Inspired in part by classical and medieval literatures, and in part by Spenser’s experience of colonial warfare in Ireland, together these mechanalia serve to distance *The Faerie Queene*’s moral allegory from the mechanisms of its own production, enabling Spenser to recuperate a legitimate (Protestant) form of literary making.

As already indicated, Part 2 (Chapter 3) occupies a special place in my argument because of Ben Jonson’s unique and sustained literary relationship with the

¹⁹ Stephen Greenblatt, *Renaissance Self-Fashioning: From More to Shakespeare*, With a new Preface (Chicago/London: University of Chicago Press, 2005 [1980]), p. 190.

²⁰ Edmund Spenser, *The Faerie Queene*, ed. by A. C. Hamilton, Hiroshi Yamashita, and Toshiyuki Suzuki, rev. 2nd edn (Harlow: Pearson Longman, 2007), I.viii.23.2; II.Proem.1.4.

Dutch alchemist and engineer Cornelis Drebbel (1572-1633). His celebrated perpetual motion machine, a telescope, and what seems to have been an early version of the magic lantern generate a number of striking and highly original Jonsonian insights into the nature and discourse of early Stuart power in three of the poet's middle masques, *Mercury Vindicated from the Alchemists at Court* (1615), *News from the New World Discovered in the Moon* (1620), and *The Masque of Augurs* (1622). Throughout, Jonson's conflicted relationship with Drebbel and the self-validating narratives of cultural and political authority attaching to the inventor's magico-mechanical devices registers related battles for interpretational control over the natural, literary, and political worlds of Jacobean England. In so doing, it reflects a growing uneasiness with the challenges new (visual) technologies – and the scientific discoveries they enabled – posed to literary culture at the beginning of the seventeenth century.

In the final part of my thesis, I turn to the rhetorical battlefields of the mid-seventeenth century, where tropes of technologically driven human enhancement borrowed from contemporary surgical practice and emergent visions of the Cartesian body-machine prompt fictions of political agency in both Royalist and Parliamentary polemics. Chapter 4 investigates the metaphorical applications of early modern prosthetics in Royalist narratives of the Civil War and Interregnum. For early modern surgeons, the human hand represented a unique symbol of intellectual and political agency. By the same token, prosthetic limbs like the hugely influential iron hands designed by the sixteenth-century French surgeon Ambroise Paré (1510-1590) were thought to restore not only physiological function, but also a sense of psychological wholeness – with direct implications for early modern self-perceptions. As I will show, in the Royalist polemics of the mid-century, rhetorical

and surgical notions of prosthesis combine with classical and biblical tropes of iron-handed rebellion and iron-handed justice to give rise to new and surrogate forms of textual agency.

Inspiring what I term a metaphors of dismemberment in the polemical literature of the period *c.* 1640-1660, mechanical (iron) hands provide a particularly suggestive source of imagery for Royalist critiques of Parliament, the Commonwealth, and the Protectorate. Capitalising upon the notion of physical and psychological restoration implicit in the surgical discipline of prosthetics, Royalist writers exploit its metaphorical potential to (re)construct and narrate Royalist identity, to vindicate Stuart rule, and to articulate military and political defeat in terms of spiritual triumph. At the same time, mechanical hands underpin Royalist invective against the Cromwellian administrations of the 1650s, portraying the Commonwealth as an artificial and unnatural graft upon the nation's mutilated body politic. As we will discover, throughout the Royalist polemics of the period the mechanical solution to physical and psychological impairment envisioned in early modern surgery furnishes Royalist writers with a rhetorical model for responding to political disenfranchisement.

I conclude this study by revisiting Milton's political and religious prose of the Civil War period, where existing and emergent ideas about the automaton underpin a polemical counter-narrative. In the first part of the chapter, I investigate their impact on the anti-prelatical tracts. Here, Milton employs a variety of mechanical images and rhetorical figures closely associated with automatic machinery in order to attack the spiritual and literary hypocrisies perpetuated by the Laudian liturgy and the episcopacy, seeking to expose both of these institutions as instruments of spiritual coercion. At the same time, the automaton also lends impetus to Milton's attack on

Charles, especially in *Eikonoklastes* (1649). Here, and in the *Second Defence* (1654), Milton portrays literary plagiarism as a mechanical form of textual production that implicates the Royalist project of hagiography in literary and spiritual disingenuousness. Elsewhere in the regicide tracts, he applies the idea of the automaton to what political radicals perceived as the oppressive political machinery of Stuart absolutism. In the two *Defences* (1651, 1654) and in *The Readie and Easie Way* (1660), a crucial distinction between self-regulating and externally motivated automata borrowed from contemporary mechanist philosophies illuminates a corresponding difference between private and public forms of sovereignty. For Milton, this marks the line between lawful and unlawful kinds of political governance. As we will discover, throughout the figure of the automaton bridges a gap in Milton's polemic between his anti-monarchical thought and the republican model of political organisation he espouses in *The Readie and Easie Way*. If early modern prosthetics provided Royalist apologists with a substitute form of literary agency, their distant cousin the automaton affords the Parliamentary opposition with a means of exposing its imaginative limits.

The loosely chronological and thematic order I adopt in my thesis is not meant to reiterate the triumphalist story of scientific progress evoked by the term 'Scientific Revolution', which in recent years has become increasingly obsolete as a heuristic device in critical scholarship.²¹ Instrument culture was thriving when Milton published the second edition of *Paradise Lost* in 1674. And the automaton exerted as powerful a hold over the sixteenth-century imagination as it did over that of the late seventeenth and eighteenth centuries.²² Rather, the organisation of my

²¹ Smith, pp. 346, 373. Knight, p. 57.

²² As Jonathan Sawday has pointed out, machines including automata were in use as metaphors for the human body long before the rise of the mechanist philosophy, Hamlet's (editorially contested) allusion to his body as a 'machine' in Shakespeare's tragedy being only one of many famous

chapters along the lines set out above is meant to reflect the extraordinary breadth and diversity of early modern machine culture in some of its more rarely studied and surprising incarnations. As we will discover in more detail in the following pages, the various texts and technologies under discussion can be understood as related forms of ingenuity or wit. In thus exploring some of the mutually sustaining relationships of figurative language, political discourse, and mechanical invention in the period, my five case studies seek to illuminate the poetics and the politics of early modern fiction-making.

WHAT'S IN A NAME?

Before I proceed to Chapter 1, a few words on terminology seem necessary. In this introduction, and indeed throughout this thesis, I have used – and will use – terms like engine, machine, and instrument, as well as mechanics, technology, and science somewhat interchangeably and imprecisely. As partially indicated in my initial critical survey, this is largely due to the fact that in the pre-disciplinary early modern world, no comprehensive or homogenous definition of what we understand by technology today existed. Nor did it constitute a distinct pursuit or (intellectual) category, linking the scientist's laboratory to the mechanician's workshop, and both to the writer's study – as indeed Agostino Ramelli's (*b.* 1531) famous book wheel suggests. In the inventor's own words, this 'beautiful and ingenious machine' – 'una bella & artificiose machina' in the original Italian – is 'very useful and convenient for anyone who takes pleasure in study [...]. For with this machine a man can see

instances. Sawday, p. 235. In his letter to Ophelia Hamlet writes: '*O dear Ophelia, I am ill at these numbers. I have not art / to reckon my groans, but that I love thee best, O most best, / believe it. Adieu. Thine evermore, most dear lady, whilst / this machine is to him. Hamlet*'. William Shakespeare, *Hamlet*, ed. by Ann Thompson and Neil Taylor (London: Arden Shakespeare, 2006), 2.2.118-21 (p. 246).

and turn through a large number of books without moving from one spot'.²³

Ramelli's vertically revolving book case combines the mechanical ingenuity of the engineer with the philological expertise of the scholar. Indeed, as Sawday notes, the machine's circular design 'mirrored the circulation of texts, documents, and ideas' in the first age of print.²⁴ In so doing, it presents the related acts of textual consumption and production that it advertises to 'anyone who takes pleasure in study' in terms of mechanically conditioned practice. Like Sturtevant or Polhem, Ramelli makes little difference between textual (or literary) and mechanical kinds of ingenuity. Both serve the same overriding goal, which is the production – and manipulation – of knowledge for practical ends.²⁵

As Jonathan Sawday reminds us, in the early modern period 'the idea of the "engine" was [...] [r]elated to the idea of *ingenium* or human ingenuity'; it could relate to 'an artillery piece, a vast battering instrument, a clumsy crowbar, a precision apparatus, or even an idea or a text', as it does here.²⁶ In the *Arte of English Poesie* (1589), George Puttenham describes the poet as a 'maker' of 'no smal dignitie and

²³ *The Various and Ingenious Machines of Agostino Ramelli: A Classic Sixteenth-Century Illustrated Treatise on Technology*, transl. from the Italian and French with a biographical study of the author by Martha Teach Gnudi, Technical annotations and a pictorial glossary by Eugene S. Ferguson (New York: Dover Publications, Inc./Aldershot: Scolar Press, 1976), pp. 508-9.

²⁴ Sawday, p. 113. Lisa Jardine and Anthony Grafton suggest that the kind of mechanised reading the book wheel promotes inspired a professional, task-oriented relationship with texts that reinvented the act of reading in terms of political action. Lisa Jardine and Anthony Grafton, "'Studied for Action": How Gabriel Harvey Read His Livy', *Past and Present*, 129 (1990), 30-78 (p. 48). On the book wheel as an intertextual archive and precursor to modern e-books and the internet, see Leah S. Marcus, 'The Silence of the Archive and the Noise of Cyberspace', in *The Renaissance Computer: Knowledge Technology in the First Age of Print*, ed. by Neil Rhodes and Jonathan Sawday (New York/London: Routledge, 2000), pp. 17-26 (p. 18).

²⁵ Cf. Marchitello, *Machine in the Text*, p. 19. Spiller, p. 3. Cf. James J. Bono, 'Why Metaphor? Toward a Metaphorics of Scientific Practice', in *Science Studies: Probing the Dynamics of Scientific Knowledge*, ed. by Sabine Maasen and Matthias Winterhager (Bielefeld: Transcript, 2010), pp. 215-34 (p. 228). He argues that: 'The world as we know it and operate upon it is one in which we continually conjoin discourse and practice, text and action: where we simultaneously learn *and* act by embodying intentions and projecting our metaphorically constructed models onto matter which we shape and use to our ends as *instruments* of thought and action. The world as we know it and study it is filled with material-textual, or material-discursive, hybrids – instruments; machines; illustrations; diagrams; maps; charts; physical models; computer simulations – that are simultaneously part of the material world and *instruments* for our knowing and manipulating it. They are all, in their own way, what I like to call *material metaphors*: embodied metaphors-in-action'.

²⁶ Sawday, p. 272. See also *OED Online*, 'engine, n'.

preheminance, aboue all other artificers, Scientificke or Mechanicall’ who ‘makes and contriues out of his owne braine, both the verse and matter of his poeme’.²⁷ Like an engine, a poem is a thing made or contrived for the purpose of forging a ‘golden’ world of the intellect from nature’s ‘brasen’ world of raw matter.²⁸ As a poetic instance of *ingenium*, it shares in the intellectually inclusive world of *technē*, where artificers poetic, ‘Scientificke’, and ‘Mechanicall’ meet – as on the lecterns of Ramelli’s book wheel – to celebrate the limitless potential of the human imagination.

All of this goes to illustrate that early modern engines, instruments, mechanisms, machines, as well as any number of devices both mechanical and literary formed part of what Jessica Wolfe has called the period’s ‘polyvalent instrumentalism’, straddling intellectual and narrative categories associated with science, mechanics, as well as popular entertainment and literature.²⁹ Confronted with a culture in which anything from books, people, their thoughts, even the world itself, to implements of personal hygiene, theatre props, or medical tools could be and were conceived of as machines in the widest sense of the term, modern attempts at taxonomy entailing modern categories of thought and academic practice are doomed to failure. Thus, when in the following pages I use the terms technology, science, engine, instrument, or machine, I do so in the knowledge that these terms did not possess the stable meanings that they do today. Both here and throughout this thesis, they represent less-than-ideal compromises in the absence of a terminology refined enough to account for the many points of contact between related mechanico-mathematical pursuits in the sixteenth and seventeenth centuries. In teasing out some of the less well-studied interactions of text and machine in the period, this thesis

²⁷ George Puttenham, *The Arte of English Poesie. Contriued into three Bookes: The first of Poets and Poesie, the second of Proportion, the third of Ornament* (London, 1589), p. 1; STC 20519.5.

²⁸ Sir Philip Sidney, *The Apologie for Poetrie* (London, 1595), sig. C^v; STC 22534.

²⁹ Wolfe, p. 3.

seeks to gesture towards a critical method for recuperating the intellectually inclusive project of the Renaissance, of which the machine – in bridging the gap that has since opened up between *technē* and *poiēsis* – remains a particularly powerful emblem.

1. THE POLITICS OF MATHEMATICAL INSTRUMENTATION IN TUDOR ENGLAND

In his astronomical treatise *The Castle of Knowledge* (1556), the mathematician Robert Recorde (c. 1512-1558) writes that ‘a materiall instrument [...] dothe as an image represent to the eies those thinges, which by only hearing, were very hard to conceaue’.¹ His meaning is clear. The instrument – in this case an armillary sphere (a basic model of the universe in which celestial objects are typically represented by several intersecting rings or *armillae*) – translates abstract mathematical principles into a three-dimensional object that helps to visualise them. In Recorde’s view, teaching theory is best accomplished by embracing practice: the material body of the instrument works in conjunction with the textual body of astronomical knowledge contained in the *Castle*. This chapter examines the ‘image’ that mathematical instruments represent to us not merely of celestial ‘thinges’, but of the decidedly earthly affairs of sixteenth-century England, offering what could be termed an instrumental history of Tudor politics. In her recent study of Shakespeare and early modern material culture, Catherine Richardson reminds us that:

there can be no doubt that objects spoke [...]. Sometimes they spoke through their form and shape, their decoration and the materials from which they were formed. [...] But a surprisingly large number of objects spoke more literally through the words which decorated their surfaces, word and thing animating one another.²

¹ Robert Recorde, *The Castle of Knowledge* (London, 1556), p. 34; STC 20796. Recorde was the first mathematician in the sixteenth century to publish widely on all aspects of mathematics in the vernacular. In the 1540s and 1550s he published an influential trilogy of textbooks on arithmetic, geometry, and algebra, which were reissued throughout the latter half of the sixteenth century. They are *The Grounde of Artes* (1543), *The Pathway to Knowledge* (1551), and *The Whetstone of Witte* (1557), in which he introduces his English readers to the ‘+’, ‘-’, and ‘=’ signs that are still in use today. *The Castle of Knowledge* (1556) is the first astronomical treatise published in the English language. Stephen Johnston, ‘Recorde, Robert (c. 1512-1558)’, *ODNB*.

² Catherine Richardson, *Shakespeare and Material Culture*, Oxford Shakespeare Topics (Oxford: Oxford University Press, 2011), p. 4.

As we will discover, mathematical instruments do all of these things, speaking to us not only about their owners' intellectual or social worlds, but also about the events that shaped their lives. Here, I seek to tell the story of Tudor politics in the second half of the sixteenth century as it is recorded on the various mathematical instruments that the London-based trade therein began to produce in the 1540s.

Four individual case studies, which include geographical globes, astrolabes, and an astronomical compendium, will serve to illuminate the mutually sustaining relationship of mechanical and political instrumentalities that underpinned courtly culture in Tudor England. They speak to us of the rise and fall of kings, of empires that never were, of soldiers who became statesmen, and of statesmen who died traitors. To borrow a phrase from Leah Knight, in this chapter I investigate the '*poiesis* evinced by artisans, technicians, instruments, and their makers', expanding upon Thomas Hankins and Robert Silverman's insight that 'instruments have a rhetorical purpose'.³ To what extent, I ask here and throughout this thesis, can instruments be said to be texts? How are they inscribed with meaning and to what end? What kinds of stories do they tell about their owners or the people who commissioned them? In short, how do instruments inscribe cultural history and political identity?

The literary implications of the rise of mathematics and its various sub-disciplines in the second half of the sixteenth century have long been recognized. According to John Dee's (1527-1609) 'Mathematicall Preface' to Henry Billingsley's translation of Euclid's *Elements* (1570), algebra, arithmetic, and geometry formed the basis for a number of related disciplines including astronomy,

³ Leah Knight, 'Historicising Early Modern Literature and Science: Recent Topics, Trends, and Problems', *Journal of Literature and Science*, 5.2 (2012), 56-60 (p. 56). Thomas L. Hankins and Robert J. Silverman, *Instruments and the Imagination* (Princeton: Princeton University Press, 1995), p. 113.

astrology, chorography, cosmography, geography, navigation, as well as a host of other more esoteric practices.⁴ All of these have proven fruitful fields of study for literary historians. Richard Helgerson, for example, has traced the mutually constitutive rhetorical strategies that went into the articulation of a coherent, cartographically informed vision of English nationhood in the poetic works of Spenser, Shakespeare, and Drayton on the one hand, and in the geographical and chorographical compendia compiled by Dee, Richard Hakluyt, and William Camden on the other.⁵

However, critical debates about sixteenth-century instrument culture have predominantly revolved around the role mathematical instruments played in disciplinary practice. In that respect, the extent to which they served as mere tools for problem-solving or, instead, operated as didactic and representational devices able to generate new kinds of knowledge about the natural world has been a particularly contentious issue.⁶ As a consequence, leading historians of science including Jim Bennett and Adam Mosley have paid comparatively little attention to the political and ideological functions attaching to the various mechanical instruments that played crucial roles in the practice of sixteenth-century mathematics. In bringing the tools of literary analysis to bear upon early modern instruments, I will argue that they operated within multiple conceptual frameworks ranging from the aesthetic to the didactic, serving as powerful reminders of political and ideological change.

⁴ John Dee, 'Mathematicall Preface', in *The Elements of Geometrie of the most auncient Philosopher Evclide of Megara. [...] With a very fruitfull Præface made by M. I. Dee, specifying the chiefe Mathematical Sciences* (London, 1570), sigs aiiiii^r-b^r; STC 10560.

⁵ Richard Helgerson, *Forms of Nationhood: The Elizabethan Writing of England* (Chicago/London: The University of Chicago Press, 1992), pp. 151-52.

⁶ Jim Bennett, 'Early Modern Mathematical Instruments', *Isis*, 102.4 (2011), 697-705 (pp. 698, 700). Adam Mosley, 'Objects of Knowledge: Mathematics and Models in Sixteenth-Century Cosmology and Astronomy', in *Transmitting Knowledge: Words, Images, and Instruments in Early Modern Europe*, ed. by Sachiko Kusukawa and Ian Maclean (Oxford: Oxford University Press, 2006), pp. 193-216 (pp. 194-96, 215-16).

Mathematical instrument-making came to the fore in England in the 1540s with the Flemish engraver, printer, and instrument-maker Thomas Lambrit (1515-1562), who was better known by his *nom de plume*, Thomas Gemini. It seems that, initially, the trade revolved around a relatively small nucleus of London-based craftsmen including Gemini, Humfrey Cole (c. 1525-1591), Augustine Ryther (c. 1550-1593), Charles Whitwell (c. 1568-1611), and James Kynvyn (c. 1550-1615), some of whose works I discuss in some detail in this chapter.⁷ They specialised in a variety of mathematical instruments like astrolabes, globes, sundials, quadrants and theodolites, as well as surveyors' and gunners' sights and rules, supplying a clientele comprising both professionals and amateurs. Mathematical practitioners naturally looked upon instruments 'to construct a public consensus on the status and aims of [the emergent discipline of] mathematics', as Stephen Johnston argues. But at the same time, enthusiastic amateurs like Robert Dudley, earl of Leicester (1532/3-1588), his son, the explorer Sir Robert Dudley (1574-1649), and Robert Devereux, second earl of Essex (1565-1601), conceived of mathematical instruments as objects of 'personal prestige and domestic display'.⁸ As we will discover, from the very beginning instruments served as more than specialist tools. They were also perceived to act upon their owners, holding the potential to radically transform their self-perception, perhaps even their personal and professional prospects.

Jessica Wolfe has persuasively argued that to Spenser's friend, the politically aspiring scholar Gabriel Harvey (1552/3-1632), mechanics offered a means of

⁷ Gerard L'Estrange Turner, *Elizabethan Instrument Makers: The Origins of the London Trade in Precision Instrument Making* (Oxford: Oxford University Press, 2000), p. vii. On the social composition, organisation, and self-representation of sixteenth-century instrument-makers see Joyce Brown, 'Guild Organisation and the Instrument-Making Trade, 1550-1830: The Grocers' and Clockmakers' Companies', *Annals of Science*, 36 (1979), 1-34, and D. J. Bryden, 'Evidence from Advertising for Mathematical Instrument Making in London, 1556-1714', *Annals of Science*, 49 (1992), 301-36.

⁸ Stephen Johnston, 'Mathematical Practitioners and Instruments in Elizabethan England', *Annals of Science*, 48 (1991), 319-44 (pp. 319, 335-36).

demonstrating to potential patrons and employers the scholar's adaptability to the practical demands of Tudor politics.⁹ For Harvey, technical ingenuity is a form of *metis*, which denotes 'resourcefulness, dexterity, and deceit'. As such, it is closely associated with political cunning, with the instruments of the courtier – rhetoric, eloquence, and wit – closely resembling those of the mechanician. To own and to master an instrument, Wolfe suggests, was to bridge the gap between the active life of the politician and the contemplative life of the scholar.¹⁰ In this chapter, I apply her insight into the social and political applications of early modern mechanics to a specific set of mathematical instruments which, so far, has not featured prominently in scholarly accounts of late Tudor political iconographies. Thus, we will see that regardless of the actual uses astrolabe, globe, and compendium were designed for, they also provided their owners with a symbolically charged means of expressing intellectual – and material – wealth. As embodiments of either the one or the other – and often of both – mathematical instruments acquired unprecedented political currency in the late sixteenth century.

In the following pages I investigate the understudied relationship between instrumental and political cultures in the second half of the sixteenth century, starting with the geographical globe. In the first part of my chapter, I examine the role that geographical globes, specifically, the Molyneux globes of 1592, played in the articulation and perpetuation of late Elizabethan dreams of a British naval empire stretching from the British Isles to the North Atlantic. The Molyneux globes are the first globes to have been produced in England in the sixteenth century, arriving on the scene at a time when anti-Spanish sentiment gave new impetus to contemporary dreams of imperial expansion promoted in the mathematico-political writings of

⁹ Jessica Wolfe, *Humanism, Machinery, and Renaissance Literature* (Cambridge: Cambridge University Press, 2004), pp. 126-29, 138-40.

¹⁰ *Ibid.*, pp. 125-26, 128-29.

authors like John Dee and Richard Hakluyt. As we will discover, they were carefully designed to transform English conceptions of nationhood, although ultimately they failed to effect policy change. In so doing, both the globes themselves and the contemporary responses that they evoked shed new light on the workings of the late Tudor propaganda machinery.

In the second part of this chapter, I examine the politically charged messages engraved upon the surfaces of several astronomical instruments made for two Tudor monarchs and their chief courtiers. As distant cousins of the (celestial) globe, astronomical instruments like the astrolabe or the compendium acted as points of contact between the earthly and the heavenly realms, promising to bring the cosmos within their operators' grasp. If the key to the globe's appeal to the sixteenth-century imagination is to be found in its user-friendliness, the astrolabe demanded a fairly complex set of mathematical skills from its owners, communicating a corresponding set of intellectual – and practical – virtues that had direct political implications. As luxury items, the kinds of expensively appointed astrolabes that I discuss in this chapter were often accessible only to a mere few. But as I will show, it was precisely because they were conspicuously exclusive that they lent themselves to elaborate symbolic play.

My case studies here include two Gemini astrolabes made in the early 1550s for Edward VI, a bespoke compendium constructed in 1593 for Robert Devereux, second earl of Essex, and another Gemini astrolabe presented to Elizabeth I on the occasion of her coronation in 1559. Not unlike the Molyneux globes, these devices survive as important documents of political change and ideological power-play, recording remarkable stories of changing personal fortunes, boundless political ambition, and of the challenges that the Tudor monarchy faced – and survived – in

the sixteenth century. What I want to emphasise in this chapter is the value of treating these instruments as devices with practical as well as rhetorical functions, seeking thereby to illuminate some of the imaginative and methodological interactions between mathematical, instrumental, and political cultures in the sixteenth century. Throughout, I argue that as literary scholars and cultural historians we have much to gain from reading these instruments not exclusively in terms of scientific practice, but as important cultural objects with powerful political implications.

FIRST PRINCIPLES: THE GLOBE

It seems particularly fitting to open my discussion of the political implications of sixteenth-century instrument culture with the globe. For as Robert Recorde explains in his above-mentioned *Castle of Knowledge*, the geometric figure of the sphere represents the first principle of the universe, and its mechanical analogue, the globe, the first principle of mathematical instrumentation.¹¹ As such, it occupies a special place within sixteenth-century economies of knowledge. Recorde explains that:

Although there be many and wonderfull instruments wittely deuised for practise in Astronomy, as the Astrolabe, the Plaine sphere, the Saphey, the Quadrante of diuerse sortes, the Chylynder, Ptolome his rules, Hipparchus rules, Tunsteedes rules, The Albion, the Torquete, the Astronomers staffe, the Astronomers ringe, the Astronomers shippe, and a greate number more, [...] yet all these are but parts, or (at the most) diuers representations of the Sphere. wherefore as the Sphere is the grounde and beginner of all other instruments, so is it moste meete that we begin with it, and the rather bycause it dothe more aptlye represent the forme of heauen, then anye other instrument canne doo.¹²

¹¹ Globes came in two varieties: terrestrial and celestial. Recorde is writing about the latter, whereas I will be concerned primarily with the former. However, they share the same basic principles.

¹² Recorde, p. 35. He holds that 'the whole worlde [i.e. the universe] is rounde exactlye as anye ball or globe, and so are the principall partes of it, euerye sphere seuerallye and ioyntlye, as well of the Planetes, as of the Fixed starres, and so are all the foure Elementes'. Throughout *The Castle of Knowledge*, he uses the words 'sphere' and 'globe' interchangeably and it is not always clear whether he refers to the solid globe or to the armillary sphere. As the scholar character observes, 'a sphere is nothing els but a rounde and massye bodye closed with one platform [i.e. surface], whiche you in your Pathwaye doo call a Globe'. Recorde, pp. 9, 17.

As ‘the grounde and beginner of all other instruments’, the globe acts as a key both to the terrestrial and to the celestial worlds, whose form it ‘dothe more aptly represent [...] then anye other instrument canne doo’.¹³ According to Recorde, it alone represents the entire universe, whereas the bewildering series of specialist instruments he mentions alongside the sphere constitute and represent merely individual ‘parts’. Because of this, their range is necessarily limited, since they can offer only very particular kinds of information tailored to very specific requirements, such as telling the time, or measuring the altitude of celestial objects. The globe, on the other hand, combines the particular kinds of knowledge generated by a range of astronomical tools into one holistic world picture, making it available in a single handy format.

More importantly, the operation of the astrolabe, the quadrant, or the torquetum (a kind of analogue computer for taking and converting measurements into three sets of astronomical coordinates) required specialist knowledge. As we will discover later on in this chapter, this generated its own set of cultural and political implications. But the globe is unique because it could be operated by virtually anybody, which rendered it particularly attractive to amateurs. Recorde’s imagined pupil in *The Castle of Knowledge* tellingly observes that ‘thinges, which before I iudged impossible, and now I know them certenly, do perswade me to thinke many thinges possible by learning, that seeme vnpossible to the ignoraunte’.¹⁴ One of the ‘thinges’ that the (terrestrial) globe made ‘possible’ was ‘to tarry within Englande, and yet to measure all the compasse of the earthe, as certenly, as any man

¹³ On the circle as an ideal figure in Renaissance theology and geometry, see David Rosand, ‘Reading the Figure’, *Source: Notes in the History of Art*, 31/32.4/1 (2012), 36–44 (pp. 38–39, 42). Cf. Evgeny A. Zaitsev, ‘The Meaning of Early Medieval Geometry: From Euclid and Surveyors’ Manuals to Christian Philosophy’, *Isis*, 90.3 (1999), 522–53 (p. 539).

¹⁴ Recorde, p. 78.

can do it, by going rounde about the earthe', or 'to tell what houre of the daye it is in all the partes of the earthe, and when the Sonne ryseth and setteth in all nations vnder heauen' – both profoundly empowering experiences for a spatially constrained nation of islanders.¹⁵ As described by Recorde, the globe quite literally draws the complex mechanism of the world into the compass of every man's understanding, closing a conceptual gap between the lived experience of individual English men and women and the abstract reality of an infinitely larger and more wonderful world beyond the shores of the British Isles. Importantly, to operate the instrument was not only to gain knowledge of the world's physical features, but it was to transform one's perception of it.¹⁶ This meant that the globe lent itself to a range of non-specialist applications.

Indeed, as John Dee points out in his 'Mathematicall Preface', globes appealed to the early modern imagination for reasons ranging from the didactic to the aesthetic. Remarking upon the popularity of common geographical implements including maps and charts among sixteenth-century enthusiasts, he writes that:

some, to beautifie their Halls, Parlors, Chambers, Galleries, Studies, or Libraries with: other some for thinges past, [...] Some other, presently to vewe the large dominion of the Turke: [...] Some, either for their owne iorneyes directing into farre landes: or to vnderstand of other mens trauailes. To conclude, some, for one purpose: and some, for an other, liketh, loueth, getteth, and vseth, Mappes, Chartes, & Geographicall Globes.¹⁷

According to Dee, geographical instruments including the globe appealed to amateurs and non-professionals because they proved adaptable to pursuits often entirely unconnected to mathematics or geography. Suited both to the parlour and to

¹⁵ Ibid., pp. 75-76. The influence of Recorde's thought on the sphere is attested by the astrologer and physician Robert Tanner, who copies this passage in *The Ready Use of the Sphere*, which was published in 1592 shortly after the publication of the Molyneux globes. Robert Tanner, *The Ready Use of the Sphere* (Amsterdam/New York: Theatrum Orbis Terrarum/Da Capo Press, 1973). This edition is a facsimile print of the 1592 edition. The passage in question is on pages 29-30.

¹⁶ On the Renaissance notion of 'the mathematical sympathy between microcosm and macrocosm', see Rudolf Wittkower, *Architectural Principles in the Age of Humanism* (New York: Norton, 1971), p. 16; quoted in Rosand, p. 38.

¹⁷ Dee, 'Mathematicall Preface', sig. aiii^r. Dee brought a pair of Mercator globes back to England from his continental journeys. See Peter J. French, *John Dee: The World of an Elizabethan Magus* (London: Routledge & Kegan Paul, 1972), p. 25.

the study, they could serve the practical purpose of significantly expanding a person's understanding of foreign topography and history, as we saw above. But as an aesthetic object, the globe could also 'beautifie' the home by expressing something about its owner's knowledge, taste, or even wealth. As we will discover in the following section, if the globe stimulated the early modern imagination in new and exciting ways, it also lent itself to a variety of political applications, generating polemically charged effects especially in the works of those geographers and mathematicians who were invested in contemporary ideas of a Tudor Empire in the North Atlantic.

'CAST[ING] THE GLOBE [...] INTO A NEW MOULD': THE FIRST ENGLISH GLOBE AND THE ELIZABETHAN DREAM OF EMPIRE¹⁸

As Dee's 'Mathematicall Preface' suggests, globes were a common sight in early modern England. But it was not until 1592 that the first pair of English-made globes (celestial and terrestrial) entered the contemporary London market for mathematical instruments.¹⁹ They were constructed by the Lambeth mathematician and instrument-maker Emery Molyneux (*d.* 1598), with engravings by the Dutch engraver Jodocus Hondius (1563-1612).²⁰ The so-called Molyneux globes (*fig* 1) generated immediate and considerable interest across all strata of English society, mainly on account of

¹⁸ The quotation is from Thomas Dekker's 1609 Satire *The Gvls Horne-booke*, in which he alludes to the Molyneux globes. Lamenting the decline of the world, he writes: 'What an excellent workeman therefore were he that could cast the Globe of it into a new mould: And not to make it looke like *Mullineux* his Globe with arownd face sleekt and washt ouer with whites of egges; but to haue it in *Plano*, as it was at first, with all the ancient circles, lines, paralels and figures, representing indéede, all the wrinkles, crackes, creuses and flawes that [...] stuck vpon it at the first creation, and made it looke most louely'. Thomas Dekker, *The Gvls Horne-booke: Stultorum plena sunt omina* (London, 1609), p. 7; STC 6500.

¹⁹ Helen M. Wallis, 'The First English Globe: A Recent Discovery', *The Geographical Journal*, 117.3 (1951), 275-90 (p. 275).

²⁰ Molyneux collaborated with the mathematician Edward Wright (*bap.* 1561-1615) and with Hondius, to whom he seems to have given the plates at some point between 1596 and 1597. Hondius subsequently suppressed his collaborators' names and claimed sole authorship of several revised versions of the globes. See Helen M. Wallis, 'Further Light on the Molyneux Globes', *The Geographical Journal*, 121.3 (1955), 304-11 (pp. 307-9).

their size (the largest globes were over two feet in diameter), their unparalleled accuracy, and their immunity to humidity at sea.²¹ Molyneux produced them in a variety of sizes, catering to royalty, the nobility, academic institutions and libraries, as well as to the poorer students of geography or mathematics. And as Helen Wallis has pointed out, although today only a few complete specimens survive, in the mid-seventeenth century both celestial and terrestrial globes were still extant across

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England and even overseas.²² As records not only of ‘English enterprise in maritime discovery’, but also of the late Tudor dream of a British naval empire stretching from

²¹ As Robert Hues suggests in his near-contemporaneous commentary on the Molyneux globes, they were considered superior even to the famous Mercator globes (1541 and 1551 respectively). Robert Hues, *A Learned Treatise of Globes, Both Cœlestiall and Terrestriall: with their severall uses. Written first in Latine, by M^r Robert Hues: and by him so Published. afterward Illustrated with Notes, by Io. Isa. Pontanus. And now lastly made English, for the benefit of the Vnlearned. By John Chilmead M^r of Christ-Church in Oxon* (London, 1639 [originally published in Latin in 1594]), sigs C4^{r-v}; STC 13908. Mercator had significantly improved upon existing globes by establishing a way to accurately calculate rhumb lines on the three-dimensional surface of the instrument, enabling navigators to plot accurate courses. Adam Max Cohen, ‘Englishing the Globe: Molyneux’s Globes and Shakespeare’s Theatrical Career’, *The Sixteenth Century Journal*, 37.4 (2006), 963-84 (p. 966).

²² Susan M. Maxwell, ‘Molyneux, Emery (d. 1598)’, *ODNB*. Wallis, ‘The First English Globe’, p. 275. Two particularly beautiful and carefully preserved specimens are housed at the Middle Temple Library in London (dated 1592 and 1603 respectively). The terrestrial globe, dated 1603, represents a revised version of the original 1592 globe. It incorporates the discovery of Novaya Zemlya by the

the British Isles to the North Atlantic, the terrestrial globe in particular shaped the world-view of at least two generations of English men and women.²³ As such, it represents an invaluable record of the politically charged symbolisms that mathematical instruments could and did acquire in late Elizabethan England. In the following pages, I revisit some of the stories that this globe tells, arguing that whilst as a propaganda tool it was designed to lend an appearance of mathematical probability to contemporary dreams of imperial expansion, it also tells a story about the dissonance between political fiction and reality in the period.

As William Sherman reminds us, the Elizabethan dream of empire ‘remained a textual affair’ until well into the reign of James I (1566-1625).²⁴ John Dee was one of its figureheads. His works set the standard for a mathematically informed, highly politicised tradition of writing a (largely fictional) British Empire that was to retain its influence beyond the turn of the century.²⁵ Lesley Cormack explains that he belonged to a small, tight-knit, university-educated coterie of mathematical geographers comprising four groups of scholars. These gathered around the Oxford mathematician Thomas Allen (1542-1632), Henry Briggs (1561-1630), who was to become the first professor of geometry at Gresham College, Henry Percy, ninth Earl of Northumberland (1562-1632), and Dee himself. Together, they were involved in the project of ‘[forging] a new conception of England’s place in the world’ through

Dutch explorer William Barentsz (c. 1550-1597) between 1594 and 1596. Wallis, ‘The First English Globe’, pp. 281-83. Evidence suggests that the Middle Temple globes belonged to William Crashawe (bap. 1572-1625/26), who preached at the Temple from 1605 until 1613. He seems to have left them to the Middle Temple along with his substantial library when he left London for Yorkshire in 1613. On the globes’ provenance, see R. M. Fisher, ‘William Crashawe and the Middle Temple Globes 1605-15’, *The Geographical Journal*, 140.1 (1974), 105-12 (p. 107).

²³ Wallis, ‘The First English Globe’, p. 275.

²⁴ William H. Sherman, *John Dee: The Politics of Reading and Writing in the English Renaissance* (Amherst: University of Massachusetts Press, 1995), p. 152. The full-scale British colonisation of the Americas did not become a geopolitical reality until the early decades of the seventeenth century. Nicolas Canny, ‘Introduction’, in *The Origins of Empire: British Overseas Enterprise to the Close of the Seventeenth Century*, ed. by Nicolas Canny and Alaine Low (Oxford: Oxford University Press, 1998), pp. 1-33 (pp. 20-22, 25-26).

²⁵ Sherman, p. 192. Ken MacMillan, ‘Introduction’, in *John Dee: The Limits of the British Empire*, ed. by Ken MacMillan with Jennifer Abeles (London/Westport, CT: Praeger, 2004), pp. 1-30 (pp. 8-9).

geographical study.²⁶ In treatises like the *General and Rare Memorials pertayning to the Perfect Arte of Navigation* (1577), or the *Brytanici Imperii Limites* (1576-78), a collection of position papers commissioned by Elizabeth's government to justify royal claims to new lands in the as-yet largely unexplored Americas, Dee adopted and promoted an overtly imperialistic and well-studied agenda. Its cornerstone was the inception of a 'PETY-NAVY-ROYALL' to support the establishment and consolidation of a 'BRYTISH IMPIRE' at home and abroad.²⁷ He is of particular importance to me here because in many ways he was instrumental in transforming the emergent discipline of mathematics – and its rhetoric – into a political tool.

In the *General and Rare Memorials*, for example, Dee invokes contemporary ideas about mathematical demonstrability in order to press a political point about the benefits of an imperial navy. He writes:

Yt seemeth to be (almost) a Mathematicall demonstration, next vnder the Mercifull and Mighty Protection of God, for a fæsable Policy, to bring or præserve this Victorious Brytish Monarchy, in maruielous Security: [...] And so, the fame, Renowm, Estimation, and Loue, or Feare, of this Brytish *Microcosmus*, all the whole and Great worlde ouer, will speedily be spred, and surely be settled.²⁸

'Mathematicall demonstration' is the key phrase here. According to Dee, it is tantamount to divine sanction or the 'Mercifull and Mighty Protection of God'.

²⁶ Lesley B. Cormack, *Charting an Empire: Geography at the English Universities, 1580-1620* (Chicago/London: The University of Chicago Press, 1997), pp. 124, 127-28.

²⁷ John Dee, *General and Rare Memorials pertayning to the Perfect Arte of Navigation* (London, 1577), sig. Aii^r; STC 6459. In the 1550s, Dee had tutored the early explorers Richard Chancellor, Sebastian Cabot, and Stephen and William Borough, and seems to have been involved with the three Frobisher voyages in search of the Northwest Passage that took place between 1576 and 1578. Later, he helped prepare the three arctic cruises undertaken by John Davis between 1585 and 1587. Circumstantial evidence seems to suggest that he may have been a driving force behind the Drake circumnavigation of 1577-1580. French, pp. 178-79. The bibliography on Dee is substantial. Recent studies include Glyn Parry, *The Arch-Conjuror of England: John Dee* (New Haven/London: Yale University Press, 2011), *John Dee: Interdisciplinary Studies in English Renaissance Thought*, ed. by Stephen Clucas (Dordrecht: Springer, 2006), Benjamin Woolley, *The Queen's Conjuror: The Science and Magic of Dr. Dee* (New York: Henry Holt, 2001), and Nicholas Clulee, *John Dee's Natural Philosophy: Between Science and Religion* (London: Routledge, 1998). They all place Dee at the centre of contemporary intellectual and political debate, revising the 'Warburg interpretation' of the archetypal English magus popularized by Frances Yates and Peter French.

²⁸ Dee, *Memorials*, sig. B^v.

Ironically, there is comparatively little actual mathematical calculation to be found in the treatise. What Dee offers instead is a remarkable rhetorical equation based upon the twin pillars of national security and overseas expansion, contending that the naval venture he proposes in the tract will bolster ‘the Reuenue of the Crown of England, and Wealth-Publik’ and thus consolidate its reputation and position ‘all the whole and Great world ouer’.²⁹ To institute and maintain an imperial navy was, in the long run, to guarantee the wealth of the nation and the security of its borders. In Sherman’s words, Dee supplied the Tudor state with an “imperial formula” of mathematical simplicity and certainty’, turning mathematics into a political instrument.³⁰ Of course, during Elizabeth’s reign Dee’s idea about recovering a vast British Empire in the North Atlantic was to remain little more than an economically and politically risky proposal.³¹ But what the *General and Rare Memorials* demonstrate clearly is that precisely because it carried connotations of irrefutable certainty, mathematical rhetoric lent itself particularly well to the communication of polemically charged messages. As we will discover next, the Molyneux globes operate upon a similar premise, bringing this rhetoric of mathematical predictability to bear on the imperial question.

While Molyneux’s celestial globe improves upon the Mercator version of 1551 only by adding the Southern Cross and the Southern Triangle to its constellations, the terrestrial globe is considerably more innovative, as Thomas

²⁹ Ibid.

³⁰ Sherman, p. 150.

³¹ As John Reeve has pointed out, it was only the Anglo-Spanish peace brokered under the terms of the Treaty of London in 1604 that ‘brought the tangible beginnings of the British empire, with settlement in North America and the Caribbean and regular trade with Asia’. John Reeve, ‘Britain and the World under the Stuarts, 1603-1689’, in *The Oxford Illustrated History of Tudor and Stuart Britain*, ed. by John Morrill (Oxford: Oxford University Press, 1996), pp. 416-31 (p. 418). Nuala Zahedieh explains the socio-economic changes that accompanied the rise of English transoceanic trade in ‘Overseas Expansion and Trade in the Seventeenth Century’, in *The Origins of Empire*, ed. by Canny and Low, pp. 398-422 (esp. pp. 421-22).

Blundeville (1522?-1606?) observes in his *Exercises* (1594).³² It includes the latest maritime discoveries made by Spanish, Portuguese, and English explorers, most notably the Frobisher voyages, as well as the Drake and Cavendish circumnavigations of 1577-1580 and 1586-1588. These remarkable feats of maritime enterprise feature as continuous red and blue lines on its surface, suggesting very clearly that since British naval presence on the seven seas was already a geopolitical reality, a British empire reliant upon naval power was well within the realm of the possible. A number of inscriptions, legends, explanatory notes, and heraldic devices serve to further announce English naval presence across the known world. A particularly large banner surmounted by an amply-sized Tudor royal coat of arms placed across the North American continent and reaching towards the arctic regions to the north seems to stake a specific claim to various unsettled territories there.³³ In other words, what is imprinted upon the surface of the globe are the geopolitical aspirations of an entire generation, or, as Richard Helgerson has written in a related context, ‘the designs of collective [imperial] desire’.³⁴

The globe’s wooden horizon circle serves both as a literal and metaphorical framing device for the imperial fiction that the instrument propagates. It is covered in engraved strips of paper featuring the Julian and Gregorian calendars. But it also includes a third, specifically English, dating system (the *Calendarium Verum* or true calendar), a compromise between the other two now believed to be derived from an English triple almanac published in 1591.³⁵ If the Tudor heraldic devices scattered

³² Thomas Blundeville, *M. Blyndevile His Exercises, containing sixe Treatises* (London, 1594), p. 242; BL shelfmark C.145.c.16.

³³ For a detailed physical description of the globe, see Bruce Williamson, *Catalogue of Silver Plate, the Property of The Hon. Society of the Middle Temple, with Notes and Illustrations, including some Particulars regarding The Molyneux Globes* (London: Inns of Court, 1930), pp. 138-44.

³⁴ Helgerson, p. 153.

³⁵ Wallis, ‘The First English Globe’, pp. 282-84. The almanac in question, *A triple Almanacke for the yeere of our Lorde God. 1591. being the thirde from the Leape yeere* (London, 1591), STC 433.5, is signed J. D. and has been attributed both to John Dee and to the physician John Dade (fl. 1589-1614).

across the surface of the globe conjure a compelling vision of British hegemony over space, the inclusion of the supposedly more accurate English calendar on the horizon circle seems to imply something similar about time. As Anne Lake Prescott reminds us, although much of Continental Europe had adopted Pope Gregory XIII's calendar reforms of 1582, England did not abolish the Julian system until the mid-eighteenth century for fear of 'papist novelty' and 'disruption'. But although lack of calendrical uniformity complicated English trade, she writes that it also provided English writers with 'a chance for cleverness and a sharpened insight into cultural difference'.³⁶ I would suggest that a similar assumption informs the Molyneux globe. For its creator to be able to claim unparalleled accuracy for his instrument as he did meant that he had to navigate a fine line between mathematical precision and the more polemical narrative of England's special place in the world that we have seen it inscribe. In fact, Molyneux is among the earliest almanac-writers to acknowledge the Gregorian calendar at all.³⁷ But the inclusion of the English dating system also emphasises and perpetuates cultural difference. It suggests that although England was prepared to assume its place among the other European powers, it was also proudly independent. The Molyneux globe thus reinvents the world from a particularly English perspective, depicting an empire that Dee believed had once existed under the mythical English kings of the past and that it was Elizabeth's destiny to restore to its former glory.³⁸ In this context, to assert British control over space and, in a sense,

³⁶ Anne Lake Prescott, 'Refusing Translation: The Gregorian Calendar and Early Modern English Writers', *The Yearbook of English Studies*, 36.1 (2006), 1-11 (pp. 2-3, 11). See also Duncan Steel, *Marking Time: The Epic Quest to Invent the Perfect Calendar* (New York: Wiley, 2000); and Robert Poole, *Time's Alteration: Calendar Reform in Early Modern England* (London: UCL Press, 1998), chs 4 and 5.

³⁷ Prescott, p. 3.

³⁸ Sherman, p. 181. On the influence of antiquarianism on Tudor politics, see Angus Vine, *In Defiance of Time: Antiquarian Writing in Early Modern England* (Oxford: Oxford University Press, 2010), pp. 80-83. Graham Parry writes that 'the antiquarian movement in England developed out of the convergence of Renaissance historical scholarship with Reformation concerns about national identity

over time itself was to bring his rhetoric of mathematical certainty to bear upon the imperial question.³⁹

Of equal significance to the fiction inscribed on the surface of the globe is the textual response the instrument evoked in contemporary commentaries by mathematicians including Robert Hues, Robert Tanner, and especially Thomas Hood (*bap.* 1556-1620). These not only testify to what has been called a ‘bilateral relationship between technology and literature’ in the period.⁴⁰ They also document the transformations that Molyneux’s terrestrial globe wrought in the English psyche. Hood, one of the earliest commentators, offers a particularly illuminating reaction in his manual on *The Vse of both the Globes* (1592).⁴¹ His discussion of the Molyneux globe’s usefulness in determining latitude provides a case in point. It reflects a growing sense that England had finally arrived on the (geopolitical) map of late-sixteenth-century Europe.

Thus, he writes that ‘Some [inhabitants of the earth] may haue diuers longitudes, but the same latitude, as the Germans, the Muscouites, the Tartarians &c. differing in longitude haue notwithstanding the same latitude with the English men’.⁴² On the largely Christocentric medieval T and O maps, the British Isles in particular had traditionally been confined to the fringes of the known world, sharing

and religious ancestry’. Graham Parry, *The Trophies of Time: English Antiquarians of The Seventeenth Century* (Oxford: Oxford University Press, 1995), p. 2.

³⁹ Not everyone agreed that this was desirable. As Thomas Dekker would scornfully remark in 1609, the Molyneux globe had ‘cast the Globe of [the world] into a new mould’, its ‘arownd face sleekt and washt ouer with whites of egges’ and ‘fild vp with Ceruse [cerise] and Uermilion’. But in doing so, it had effaced the original divine creation. Dekker, p. 7.

⁴⁰ Cohen, p. 984.

⁴¹ Thomas Hood, *The Vse of both the Globes, Celestiall, and Terrestriall, most plainely deliuered in forme of a Dialogue. Containing most pleasant, and profitable conclusions for the Mariner, and generally for all those, that are addicted to these kind of Mathematicall Instrumentes* (London, 1592), title page; BL shelfmark C.114.a.12. The treatise is bound with a copy of Robert Hues’s *Tractatvs de Globis Et Eorvm Vsv* (London, 1594). As the subtitle suggests, the treatise seeks to intrigue and capture a dual audience, addressing itself both to ‘the Mariner’, but also to ‘all those, that are addicted to these kind of Mathematicall instrumentes’. If nothing else, it testifies to the broad appeal that the Molyneux globes had or were expected to have.

⁴² Hood, *The Vse of both the Globes*, sigs K2^{r-v}.

what little space was accorded them with the monsters of the medieval imagination. The Hereford *mappa mundi* (c. 1300) is a particularly famous example. What Hood seems to imply here by invoking shared latitudes with the ‘Germans’ and ‘Muscovites’ is that, geographically, England was far closer to the Continent – and, by implication, to its political affairs – than a cursory glance at a conventional map might lead one to conclude. The fact that he thinks it worthwhile to point this out to his readers is significant. For what it achieved was to bring the British Isles into the geographical compass of Continental Europe, putting an end to England’s century-long subsistence on the cartographic fringes of the medieval *mappae mundi*.⁴³ The Molyneux globe was of course not the first world map to represent the position of the British Isles accurately. But it was the first geographical instrument that bore the seal of an English monarch’s approval and thus seemed to herald a new political departure for the country.

As we have seen so far, the Molyneux globe was designed to inscribe and legitimate a political fiction of imperial expansion by reinventing England as a major player on the stage of international affairs. It was also intended to reach a wide audience that included the movers and shakers of late Elizabethan England. R. M. Fisher has found evidence of Molyneux globes in the possession of Elizabethan politicians and courtiers, explorers and adventures, gentlemen scientists, academics, theologians, and diplomats. These included Sir Robert Cecil, who was presented with a Molyneux globe in 1595 at the height of the Anglo-Spanish war, Sir Walter Raleigh, Henry Percy, ninth earl of Northumberland, Robert Hovenden, the warden of All Souls’ College, Oxford, Sir Thomas Bodley, and Samuel Ward of Emmanuel College, Cambridge. Queen Elizabeth herself was presented with the first pair of

⁴³ On the British Isles as ‘global marginalia’ situated at ‘the edge of [medieval] civilization’, see Asa Simon Mittman, *Maps and Monsters in Medieval England* (Abingdon/New York: Routledge, 2006), p. 23.

globes to come out of Molyneux's Lambeth workshop.⁴⁴ As Sherman reminds us, at the same time that the instrument seemed to give the nascent Tudor Empire the stamp of mathematical and geographical probability, 'this same globe was also designed to act on the queen; to persuade her to pursue a policy of imperial (specifically naval) expansion'.⁴⁵

Judging by her response to the pair of globes that she was presented with at the house of William Sanderson (1547/8-1638) in 1592, Elizabeth was keenly aware of their propaganda potential. Sanderson, a wealthy merchant and investor who was related to Sir Walter Raleigh by marriage, funded numerous overseas ventures including the Frobisher and Davis voyages as well as Raleigh's Virginia enterprise.⁴⁶ It was he who financed Molyneux's globes, providing a staggering sum in excess of £1000 pounds towards their construction. This meant that he had a vested interest in their dissemination and reflects his support for the expansionist agenda that it promoted. The occasion of the globe's presentation to Elizabeth is documented in *An Answer to a Scurrilous Pamphlet Intituled, Observations upon a compleat history of the lives and reignes of Mary, Queen of Scotland, and of her son, King James* (1656).⁴⁷ Written and published by Sanderson's eldest son, the historian Sir William Sanderson (1586-1676), this is one of several acrimonious pamphlets he exchanged

⁴⁴ Fisher, p. 107. For a discussion of the globes' literary afterlives in the drama of the 1590s and 1600s, see Cohen, pp. 963, 977-80. He tantalisingly suggests that the Molyneux globes account for Shakespeare's fascination with cartographic imagery in his plays, even detecting an allusion to them in the name of the Globe Theatre.

⁴⁵ Sherman, p. 191.

⁴⁶ Anita McConnell, 'Sanderson, William (1547/8-1638)', *ODNB*.

⁴⁷ Maxwell, 'Molyneux, Emery', *ODNB*. There were at least two separate occasions. According to Maxwell, Elizabeth was presented with a pair of Molyneux globes in July 1592 at Greenwich, followed by this entertainment at Sanderson's house. According to the account by Sanderson junior, there was a third meeting during which she also received a celestial globe.

with Carew Raleigh (1605-1666) about the business relations between their fathers.⁴⁸

Sanderson records that upon being presented with the globe:

[Elizabeth] was pleased to descant, *The whole earth, a present for a Prince; but with the Spanish Kings leave*, she said, alluding to his Emblem, A Spanish genet, in speed upon the Globe of the Earth; his fore-feet over-reaching, with his Motto, *Non sufficit Orbis*. At her second entertainment there, she receiving the Celestiall said, *Thou hast presented me with the Heavens also: God giue me, to Govern my part of the one, that I may enjoy but a mansion place in this other*.⁴⁹

Her witty response achieves three very different things in a remarkably concise way.

Firstly, it makes a joke at Philip II's expense, acknowledging and pandering to contemporary anti-Spanish and anti-Catholic feeling, as the faux courtesy of '*The whole earth, a present for a Prince; with the Spanish Kings leave*' suggests.

Immediately, we are reminded of the historical context of the Anglo-Spanish war, the allusion to Philip's emblem – the globe surmounted by the rearing horse and the motto '*Non sufficit Orbis*' ('The World is not enough') – evoking easily recognisable stereotypes of the Spanish monarch's 'vnsatiable ambition' and 'that proude and vnreasonable reaching vaine of his'.⁵⁰

But at the same time, Elizabeth also sends a rather sobering message to those at her own court who, like the Earl of Essex or Sir Walter Raleigh, aggressively promoted extensive military intervention on behalf of European Protestantism, of which maritime expansion into the Spanish-controlled Americas formed one part.

⁴⁸ Sanderson senior and Raleigh fell out over the financing of Raleigh's Guiana expedition in 1594. The conflict between the two families remained unsettled, as the exchange of pamphlets between Carew Raleigh and the younger Sanderson attests. See D. R. Woolf, 'Sanderson, Sir William (1586-1676)', *ODNB*.

⁴⁹ Sir William Sanderson, *An Answer To A Scurrilous Pamphlet, Intituled, Observations upon a Compleat History of the Lives and Reignes of Mary Queen of Scotland, and of her Son King James, of Great Britain, France and Ireland the Sixth. The Libeller without a Name, set out by G. Bedell and T. Collins two Booksellers: But the History Vindicated by the Authour William Sanderson Esq;* (London, 1656), sig. A4^r; Wing S644.

⁵⁰ Richard Hakluyt, *The Principal Navigations, Voyages, Traffiques and Discoveries of the English nation* (London, 1599-1600), pp. 540-41; STC 12626a. This is the second edition of the treatise. It was in the preface of the first edition that Hakluyt had announced the forthcoming publication of the Molyneux globes. Richard Hakluyt, *The Principal Navigations, Voiages, And Discoveries Of The English nation* (London, 1589), sig. *4^v; STC 12625.

Elizabeth firmly believed in what has been called ‘the theory of “imperial” kingship’ first adopted by her father, which was predicated on her royal supremacy in matters of temporal and spiritual governance.⁵¹ But her insistence on imperial kingship did not mean that she condoned contemporary plans for a British Empire either in Europe or in the New World. Indeed, John Guy notes that throughout her reign Elizabeth was wholly unconcerned with the ‘territorial illusions’ of earlier Tudor monarchs, preferring to err on the side of caution when it came to foreign policy. In the late 1580s and early 1590s, she prevaricated considerably on whether or not to offer the Dutch Netherlands assistance in their struggle against Habsburg Spain.⁵² Contrary to the impression evoked by the imperial polemics that proliferated in the last two decades of her reign, she carefully avoided any commitment to colonial ventures in the Americas. As David Armitage notes, ‘The few fragments of evidence we do have suggest that Elizabeth’s own idea of empire was indeed tinged with the sense of isolation, backwardness and anxiety felt by all but the most fulsomely flattering of her subjects’.⁵³

In that respect, Elizabeth’s response to the celestial globe seems particularly revealing. According to Sanderson junior, she greeted it with conspicuous modesty, claiming to aspire to little more than the dominion over ‘*my part of the [terrestrial globe], that I may enjoy but a mansion place in this other*’. These are not the words of a queen preparing to assume the imperial crown that we saw Dee and like-minded courtiers so assiduously prepare for her. To the contrary, they rather emphasise the fact that there was not going to be any kind of imperial expansion while she was on

⁵¹ John Guy, ‘Tudor Monarchy and Political Culture’, in *The Oxford History of Tudor and Stuart Britain*, ed. by Morrill, pp. 219-38 (p. 238).

⁵² Ibid., p. 234. For a brief summary of the Anglo-Spanish war in the 1580s and 1590s, see Simon Adams, ‘England and the World under the Tudors, 1485-1603’, in *The Oxford History of Tudor and Stuart Britain*, ed. by Morrill, pp. 397-415 (p. 413).

⁵³ David Armitage, ‘The Elizabethan Idea of Empire’, *Transactions of the Royal Historical Society*, Sixth Series, 14 (2004), 269-77 (p. 275). He argues that most imperial ‘panegyrics were expressed upwards, as flattery, rather than downwards, as propaganda’, pp. 273-75.

the throne. This is hardly surprising, given the fact that in the winter of 1591-1592 English military campaigns in Northern France in aid of Henry IV had collapsed ignominiously, which could hardly have inspired confidence in the practicability of a vastly more ambitious scheme of foreign intervention.⁵⁴ However, as I would suggest in concluding this section of my chapter, none of this detracts from the cultural importance of the Molyneux globes. For even if, ultimately, they failed to transform Elizabethan policy, they survive as an accurate reflection of the elements of fiction inherent in it, telling two rather different stories: one is a story about the emergence of a new understanding of English nationhood in the last quarter of the sixteenth century. The other is a story about the political tensions that this new vision generated. The dissonance between the two sheds important light on the workings – and limits – of the late Elizabethan propaganda machine.

PORTABLE HEAVENS: THE TUDOR ASTROLABE IN THE SIXTEENTH CENTURY

If geographical globes expressed – and helped to shape – late Tudor ideas about national identity, the period's astronomical instruments tend to tell rather more personal stories about how their owners navigated the rapidly changing currents of early modern English politics. In what follows, I attempt a political and imaginative history of astronomical instruments in the second half of the sixteenth century. To that effect, I examine four individual specimens that emerged at particularly decisive junctures in the personal and political histories of the men and women who reigned over Tudor England in the period *c.* 1547-1603. These include two Gemini astrolabes

⁵⁴ Paul E. J. Hammer, *The Polarisation of Elizabethan Politics: The Political Career of Robert Devereux, 2nd Earl of Essex, 1585-1597* (Cambridge: Cambridge University Press, 1999), pp. 106-11. On Elizabeth's economic and fiscal problems, which were exacerbated by a series of bad harvests in 1585, 1586, 1589, 1590 and then again in 1594-1597, see Christopher Haigh, 'Politics in an Age of Peace and War', in *The Oxford History of Tudor and Stuart Britain*, ed. by Morrill, pp. 330-60 (p. 338).

made in the 1550s for the teenage King Edward VI, a bespoke compendium constructed in 1593 for Elizabeth's last great favourite, Robert Devereux, and another Gemini astrolabe presented to her on the occasion of her coronation in 1559. Not unlike the Molyneux globes, they survive as important documents of political and ideological change, recording remarkable stories of personal fortunes, boundless ambitions, and political crises. Although most of these instruments would not have been accessible to non-courtly audiences, they do reflect poignantly upon – and serve to reinforce – their owners' self-perceptions. In some cases, they even tell us about the ways in which they responded to the personal and political challenges that inevitably accompanied a career in the service of the crown.

Extant since antiquity and reintroduced to the Latin West in the middle ages, the astrolabe is a near cousin of the globe, representing a two-dimensional model of the celestial sphere that 'sheweth the gliding or course of the starres', as the Elizabethan astronomer and mathematician John Blagrove (*b.* before 1560, *d.* 1611) writes in his *Mathematical Iewel* (1585).⁵⁵ It can be used for a variety of purposes: to establish the time, the length of day or night, to determine latitude, for surveying, even to make astrological projections. But like the globe, the astrolabe also possessed a number of emblematic qualities that rendered it particularly attractive especially to a courtly 'culture of magnificence' that viewed instruments 'as tools of *sprezzatura*, representing the practice of mechanics as a guarantor of *virtù* and grace crucial to

⁵⁵ John Blagrove, *The Mathematical Iewel, Shewing the making, and most excellent vse of a singular Instrument so called: in that it performeth with wonderfull dexteritie, whatsoeuer is to be done, either by Quadrant, Ship, Circle, Cylinder, Ring, Dyall, Horoscope, Astrolabe, sphere, Globe, or any such like heretofore devised: yea or by most Tables commonly extant: and that generally to all places from Pole to Pole* (London, 1585), title page, p. 20; BL shelfmark C.60.o.7. This is Gabriel Harvey's copy of the work. According to Blagrove, the astrolabe represents 'the direct pathway [...] through the whole Artes of Astronomy, Cosmography, Geography, Topograhie, Nauigation, Longitudes of Regions; Dyalling, Sphericall triangles, Setting figures; [...] with great and incredible speede, plainnesse, facillitie, and pleasure'. On the peculiar relationship of text and instrument (and of text as instrument) in Blagrove's elaborately illustrated treatise, see Katie Taylor, 'A "Pratique Discipline"? Mathematical Arts in John Blagrove's *The Mathematical Jewel* (1585)', *JHA*, 41 (2010), 329-53.

success at court'.⁵⁶ Indeed, as Wolfe infers from Gabriel Harvey's above-mentioned fascination not only with Blagrove's *Mathematical Iewel*, but with instrumental culture in general, the (aspiring) Renaissance courtier habitually located political and mechanical kinds of wit on a shared scale of instrumentality, believing that 'the operation of mechanical devices fosters courtly dexterity'.⁵⁷ As we will discover in more detail below, the astrolabe and related kinds of astronomical instruments formed an integral part of the economy of prestige and wonder that regulated courtly life. Acting as points of contact between the earthly and the heavenly realms, even promising to bring the cosmos within its operator's grasp, the astrolabe in particular was a deeply symbolic object with various politically charged implications.⁵⁸

A particularly striking early illustration of the instrument's metaphorical potential survives in the form of Bonetus de Latis's printed 1493 treatise, *Annulus astronomicus*. In it, de Latis, a Jewish physician and astrologer to Pope Alexander VI, describes what amounts to a miniature astrolabe modified so that it could be worn as a ring 'with which one may find the position and altitude of the sun, [...] the hour of day and night, the altitude of the stars, the positions of the planets, [...] the latitude of cities and the height of towers'.⁵⁹ Its miniature size renders the instrument virtually useless as a mathematical precision instrument. But as a beautiful artefact and symbol of the vast store of knowledge associated with astronomical calculation it conjures a vision of omniscience eminently suited to God's representative on earth,

⁵⁶ Scott Lightsey, *Manmade Marvels in Medieval Culture and Literature* (New York/Basingstoke: Palgrave Macmillan, 2007), p. 5. Wolfe, p. 15. She describes the courtly concept of *sprezzatura* as 'the mitigation of difficulty by mechanical means', p. 31.

⁵⁷ *Ibid.*, pp. 19-20, 134.

⁵⁸ The word 'astrolabe', from the Greek *astrolabos*, denotes the activity of measuring or literally taking the stars. *OED Online*, 'astrolabe, *n.*', from the Greek *astro-* ('Forming terms relating to stars, other celestial objects, or outer space') and *-labe* ('forming nouns denoting instruments that take measurements, esp. of the distances to or between celestial objects, [...] or that physically grasp objects').

⁵⁹ Lynn Thorndike, *A History of Magic and Experimental Science: Volumes III and IV Fourteenth and Fifteenth Centuries*, 8 vols (New York: Columbia University Press, 1923-58, 1934), IV, p. 465.

suggesting that Alexander held exclusive access to, and understanding of, the universe, quite literally, at the tips of his fingers. As such, de Latis's miniature astrolabe speaks eloquently of the Borgia pope's self-perception, his command over the instrument providing a powerful analogy for the global and indeed universal reach that the resurging Renaissance papacy arrogated to itself after the end of the schism brokered at the Council of Constance (1414-1418).⁶⁰ It comes as no surprise, therefore, that the astrolabe also proved popular among successive English monarchs and their courtly retainers, especially after the Henrician Act of Supremacy (1534) that established the Tudor monarch as the head of state and church and effectually replaced the Catholic pope as God's deputy on earth.⁶¹

Indeed, as I demonstrate here, it is possible to tell an alternative history of the Tudor dynasty's political fortunes by examining – or reading – the various astronomical instruments that have an uncanny habit of appearing at particularly crucial or delicate moments in its history. Many of the astrolabes and – in Robert Devereux's case, compendia – I propose to examine in the following pages are particularly beautiful works of art, their various and often imaginative inscriptions, engravings, and ornaments telling a number of poignant stories not only about their owners, but also about the individuals who commissioned them. It is thus with their non-functional characteristics that I will be concerned here, arguing that apart from their practical applications, sixteenth-century astronomical instruments also had various cultural implications that historians of science have so far tended to overlook.

THE SHADOWS OF POWER: EDWARD VI'S 1552 ASTROLABE

⁶⁰ On the impact that the Council of Constance had on the (self-)perception of the Roman and Gallican papacies, see Thomas M. Izbicki, 'Conclusion: The Shadow of the Schism', in *A Companion to the Great Western Schism (1378-1417)*, ed. by Joëlle Rollo-Koster and Thomas M. Izbicki (Leiden/Boston: Brill, 2009), pp. 443-446.

⁶¹ Guy, pp. 226-27.

Among the earliest extant examples are two astrolabes made by Thomas Gemini for Edward VI (r. 1547-1553) in c. 1551 and 1552 respectively. The first (*fig 2*) features the royal arms in a cartouche inscribed E R for Edwardus Rex, surrounded by the Garter and surmounted by a royal crown. They are flanked by the Tudor double rose and portcullis badges to the left and right. There is nothing inherently surprising in this. For besides the standard curriculum comprising the study of the Greek and Latin classics, the rigorous educational regime that the young King Edward continued to enjoy under the tutelage of Sir John Cheke (1514-1557) also included mathematics, geography, and astronomy.⁶² It is therefore to be expected that a working astrolabe engraved with the king's insignia should have found its way into his possession at that time.

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But educational purposes alone cannot account for the rather more extraordinary 1552 astrolabe (*fig 3*). It too bears the insignia of Edward VI, but in the

⁶² According to Jennifer Loach, Edward spent much time surrounded by Gemini instruments, the mathematical works of Robert Recorde, as well as maps and globes. Jennifer Loach, *Edward VI*, ed. by George Bernard and Penry Williams (New Haven/London: Yale University Press, 1999), pp. 14-15. Loach's study was published posthumously.

shadow square (or shadow box) on the back it also includes those of John Dudley, Duke of Northumberland (1504-1553), and the king's tutor Sir John Cheke.⁶³ This raises three simple questions: one, why did Edward – or, more likely, Cheke, as Turner speculates – commission another astrolabe when a very splendid specimen was already in the king's possession?⁶⁴ Two, why does it include both Cheke's and Northumberland's coats of arms? And three, what does all of this tell us about the relationships between the men who ruled over mid-century England? In the absence of positive proof, we can only speculate about the motivation behind the instrument's iconography. But the historical record offers some tantalising suggestions.

The three or four years preceding Edward's death in the summer of 1553 heralded significant economic, religious, and political upheaval for Tudor England.⁶⁵ Both Cheke and particularly Northumberland were not only very much at the centre of events, but also profited immensely, both personally and politically. The year 1551 proved particularly momentous for their respective careers. In October, John Dudley, then still Earl of Warwick and recently elected to the powerful presidency of the Privy Council, was promoted to the title of Duke of Northumberland – one of several new peerage creations that habitually marked important changes in policy under the Tudors, as David Loades has observed. In this case, the promotion marked the imminent and final downfall of Edward Seymour, Duke of Somerset, Edward's uncle and Lord Protector, against whom Warwick had lobbied aggressively since before 1549.⁶⁶ Cheke had tutored Edward in Greek since 1549 and, despite his

⁶³ Turner, pp. 95, 103-5.

⁶⁴ Ibid., p. 17.

⁶⁵ Economic instability and price inflation, fiscal problems, and periods of plague and sickness were exacerbated by unstable national politics dominated, for a time around the year 1550, by factional infighting over control of the boy king. This led to regional revolts – for instance in 1549 – while the gathering momentum of the Reformation prompted ideological division and religious strife. Guy, pp. 229-30.

⁶⁶ David Loades, *John Dudley, Duke of Northumberland, 1504-1553* (Oxford: Clarendon Press, 1996), p. 180.

political association with Somerset, had been retained as one of the King's principal Gentlemen of the Privy Chamber. In 1550 and again in early 1551, his years of service brought him substantial lands and annuities; in October he was knighted as part of the series of promotions that consolidated the new Duke of Northumberland's hold on the political landscape of mid-century England.⁶⁷

By 1552, when the second Gemini astrolabe was made for Edward, the staunchly Protestant Cheke was actively involved in the work on the second Book of

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Common Prayer, consulted on the Forty-Two Articles of Religion (1553), and began translating the New Testament into English.⁶⁸ For Northumberland, the year 1552 brought unpopularity for his involvement in the execution of Somerset, but saw him in an unassailable position politically, which he buttressed by securing a string of

⁶⁷ Alan Bryson, 'Cheke, Sir John (1514-1557)', *ODNB*.

⁶⁸ *Ibid.*

lucrative offices and lands.⁶⁹ After their own fashion, both men had turned into pillars of Tudor England as it reinvented itself both politically and spiritually, reaching the apex of their careers. As such, they circumscribed the boundaries of Edward's intellectual and political worlds at this particular moment in time. To include their emblems on the astrolabe constitutes not only an official endorsement, but also a bold statement about their personal influence on – and in Northumberland's case, desire to assert ascendancy over – the king, as I demonstrate next.

The relative position of Cheke's, Northumberland's, and Edward's coats of arms in relation to the second astrolabe's shadow box is of significance here. A shadow box (or shadow square), which is typically located on the back of the instrument, allows the user to measure the height of an object by simulating the ratio between a gnomon (like the indicator on a sundial) and its shadow (in this case, the square is calibrated to twelve units on both sides, presumably simulating a gnomon of twelve inches or one foot in height).⁷⁰ The technical specifications of Gemini's astrolabe are not immediately relevant. What is significant is that Edward's insignia are located centrally in the bottom quarter of the astrolabe's disk, but outside the shadow square. By contrast, Northumberland and Cheke's more prominent coats of arms are located within at either side. I would suggest that one way of reading this ingeniously choreographed display of heraldry is as a celebration of Edward's budding kingship in terms of a *via media* between the active political life of the courtier (emblematised by the politically ambitious Northumberland) and the contemplative life of the (Protestant) scholar. Perhaps it was intended as a compliment to the English Josiah of later Tudor hagiography, an epitome of the

⁶⁹ Loades, pp. 190, 220-23.

⁷⁰ For a demonstration of the principles and measurements involved, see James Evans, *The History and Practice of Ancient Astronomy* (Oxford: Oxford University Press, 1998), p. 149.

humanist principles that Cheke and his various other royal tutors sought to instil in Edward.⁷¹

However, given the size and prominence of the king's royal insignia on the earlier 1551 astrolabe, it seems more likely that here the iconography serves as a reflection of his advisers' position within the political cosmos of the Tudor court, rather than Edward's own. For it is of course by taking a reading from the units marked on the inside of the shadow box that the height of the sun or of distant objects was computed. The intended implication seems to be that it was by the shadows that Cheke and Northumberland cast at court that the young king's own height (or, by analogy, pre-eminence in matters political) was to be measured. By the time Northumberland had gathered the reins of power in his hands (and those of the Privy Council), the teenage Edward was beginning to show signs of independent political judgment, even demanding greater involvement in the day-to-day business of governance.⁷² In this context, the astrolabe would have constituted a powerful reminder of Northumberland (and Cheke's) centrality to royal power.

What Gemini's 1552 astrolabe teaches, then, is a lesson not so much in astronomy as in politics: it may or may not have been intended to impress upon Edward the importance of politic behaviour towards the men who reigned in his place. But it seems more probable that the targets of the instrument's unique iconography were primarily Edward's Gentlemen of the Privy Chamber, those courtiers that were closest to him. Several of them, including Sir John Gates (1504-1553), Sir Henry Neville (c. 1520-1593), and Sir Henry Sidney (1529-1586) were

⁷¹ Loach, p. 184.

⁷² Ibid., pp. 97-98.

followers and political allies of Northumberland.⁷³ To have the signs of the political hierarchy engraved on an instrument designed primarily for taking measurements was to reinforce the idea that Northumberland's power was real, tangible, and measurable by his influence not only over Edward, but also over those who administered his affairs. Given the volatile – and often rapidly changing – landscape of mid-century Tudor politics, reminding his allies of where their loyalties lay would have been of paramount importance to him. For waiting in the shadows of power were long-standing political adversaries like Henry FitzAlan, twelfth earl of Arundel (1512-1580), who, in 1553, helped to oust Northumberland after his attempt to install Lady Jane Grey on the throne. He was instrumental in visiting the duke's coup against Protector Somerset on his own head.⁷⁴ What the extraordinary iconography of Gemini's 1552 astrolabe reflects above all is a message about (royal) power and its distribution among those closest to the teenage Edward. But with historical hindsight, the inclusion of Northumberland and Cheke's coats of arms in the instrument's shadow box also acquires a distinctly ironic character, evoking Guildenstern's line from Shakespeare's *Hamlet*, that 'the very substance of the ambitious is merely the shadow of a dream'.⁷⁵ For despite his remarkable successes, Northumberland's *de facto* rule over England was short. He was executed in the autumn of 1553; while Cheke found himself in the Tower for his role in the succession crisis and, from 1554 onwards, in exile on the Continent. He died in

⁷³ Narasingha P. Sil, 'Gates, Sir John (1504-1553)', *ODNB*. Michael Riordan, 'Neville, Sir Henry; Henry VIII, privy chamber of (*act.* 1509-1547)', *ODNB*. Wallace T. MacCaffrey, 'Sidney, Sir Henry (1529-1586)', *ODNB*.

⁷⁴ Loades, pp. 262, 264, 266. See also Julian Lock, 'FitzAlan, Henry, twelfth earl of Arundel (1512-1580)', *ODNB*.

⁷⁵ William Shakespeare, *The Tragedy of Hamlet, Prince of Denmark: The First Folio (1623)*, in *Hamlet: The Texts of 1603 and 1623*, ed. by Ann Thompson and Neil Taylor (London: Arden, 2006), pp. 173-360 (p. 238, 2.2.256-57).

England in 1557, still wealthy, but having been forced to undergo a public recantation of his Protestant faith.⁷⁶

COMPANION OF VIRTUE: ROBERT DEVEREUX'S POCKET COMPENDIUM

With the passage of time the iconographic properties of mathematical instruments grew more sophisticated. The specimen I want to discuss next did not belong to a Tudor monarch, but to Elizabeth's last and politically most divisive favourite, Robert Devereux, second earl of Essex. In 1593, the instrument-maker James Kynvyn received the earl's commission for a bespoke astronomical compendium (*fig 4*), which is inscribed with his personal motto, 'INVIDIA VIRTUTIS COMES' ('envy is the companion of virtue') and coat of arms. Another longer inscription reading 'HE THAT TO HIS NOBLE LINNAGE ADDETH VERTV AND GOOD CONDISIONS IS TO BE PRAYSED: THEY THAT BE PERFECTLI WISE DESPISE WORLDI HONOR WHER RICHES ARE HONORED GOOD MEN ARE DESPISED' meanders along the rounded side of the instrument casing.⁷⁷ This emphasis on virtue, 'good condisions', and wisdom, which formed part of the Renaissance cult of classical *virtù* that the English nobility subscribed to just as much as their continental peers, was to become crucially important to Devereux in the 1590s.⁷⁸

The year 1593 marked an important turning point in his fortunes. As Paul Hammer notes, until then he had focused virtually all of his energies on

⁷⁶ Bryson, 'Cheke', *ODNB*.

⁷⁷ Turner, p. 226.

⁷⁸ As Paul Hammer notes, the Renaissance concept of virtue comprised both private and public qualities including justice, generosity, and war, being the defining characteristic of the nobleman, whose aristocratic destiny was the active life of the public servant. Essex's personal motto, '*Invidia virtutis comes*', thus represents 'a powerful statement of identity and purpose', seeing him model 'his whole life around the conspicuous cultivation of "virtue"'. Hammer, pp. 19-20. See also Blair Worden, *The Sound of Virtue: Philip Sidney's Arcadia and Elizabethan Politics* (New Haven/London: Yale University Press, 1996), esp. ch. 2.

consolidating his reputation as a soldier and royal favourite. However, as the failure of the English campaign in Normandy in 1592 demonstrated, soldiering in the service of the anti-Spanish cause was not going to earn him either the status at court or the respect of the queen that he coveted and wished to claim for himself.⁷⁹ Seeking to transform the still young soldier into a statesman, he set his sights on the Privy Council and on 25 February 1593 was sworn into office, eager to assume the persona of ‘the ideal young councillor’ and “‘a newe man’” of “‘honorable gravyty and

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singularly lyked of’”, as one admirer observed.⁸⁰

Over the coming months and years, he worked tirelessly to make himself indispensable to Elizabeth in matters of state, especially those pertaining to foreign and military affairs. From the beginning, he was involved in the military administration of Elizabeth’s troops, and played a major role in overseeing the defence of the realm along England’s south coast, with visits to Dover, Wiltshire,

⁷⁹ Hammer, pp. 111-13.

⁸⁰ Ibid., pp. 119-20.

and the Isle of Wight in 1593 alone. He managed an impressive continental network of contacts and correspondences that stretched from the Netherlands to Portugal, and hosted foreign dignitaries at home. By 1594, he commanded ‘the greatest single intelligence apparatus in England’, with spies and agents provocateurs working for him and the anti-Spanish – though not necessarily the anti-Catholic – cause in Scotland and across Europe.⁸¹ In short, 1593 – the year Kynvyn received Devereux’s commission for the compendium under discussion here – marks the very moment in the twenty-seven-year-old earl’s public career when he decided to reach for political superstardom. It was still in his possession when his political star burnt out eight years later.

Typically, astronomical compendia consisted of a collection of small astronomical instruments handily assembled in one box. They were eminently useful, especially to someone who, like Devereux, travelled both locally and internationally. His beautifully crafted, pocket-sized specimen is made of gilded brass and contains a nocturnal (a device for determining the time based on the position of the stars, now no longer functional), a latitude list of thirty nine locations (including exotic places like Cuba and China), a magnetic compass, a list of ports and harbours, a perpetual calendar, and a lunar indicator.⁸² It is capable of keeping the time, of establishing high tides at ports, and of calendrical calculation – all of which would have served Devereux well when planning the dispatch of troops or even military campaigns across the Channel. However, at the beginning of the 1590s, his main purpose seems to have been to consolidate his administrative powers. And as Hammer notes, he did

⁸¹ Ibid., pp. 126, 124, 129-31, 142, 191.

⁸² Turner, p. 226. At one point it must also have included an equinoctial sundial, which is now lost. On the typical composition of English compendia and the precise functions of their parts, see pp. 46-68. The instrument is housed in the British Museum. ‘Astronomical compendium’, *The British Museum* <http://www.britishmuseum.org/explore/highlights/highlight_objects/pe_mla/a/astronomical_compendium-1.aspx> [accessed 5 August 2014].

not turn his mind to maritime affairs until the mid-1590s, when he became personally involved in naval ventures against Spain that eventually culminated in the Cadiz expedition of 1596.⁸³ Why, I therefore want to ask here, did the astronomical compendium capture his imagination, as it clearly did, in 1593?

Part of the answer lies in the shared affinities of sixteenth-century political and instrumental cultures that I have been tracing throughout this chapter. As Wolfe reminds us in her important study of the ambassadorial functions of Renaissance machinery, in Elizabethan England ‘courtly practitioners of the mechanical arts and “rude mechanicals” alike strive to identify mechanical objects and practices as instruments of civility, discipline, and self-government’, thereby ‘allying the operation of mechanical devices with the cultivation of a new order of virtues and values – equipoise, grace, prudence, and resolve’. Providing a ‘kinematic model of decorum’, machinery was thought to manifest political *virtù*.⁸⁴ As the above-quoted inscriptions on the compendium’s casing suggest, it is this discourse of *virtù* – with its strict emphasis on ‘NOBLE LINNAGE’, ‘VERTV AND GOOD CONDISIONS’ – that also frames Devereux’s instrument. Its various bespoke features are carefully designed to reflect not only his political aspirations, but also, and more importantly, the public renunciation of “hys former youthfull trickes” for “honorable gravyty” and politic industry.⁸⁵ In what follows, I want to mention just three ways in which some of the compendium’s functions underwrite and reinforce these qualities.

Perhaps the most emphatic statement of the new departure that 1593 marked for Devereux is engraved on the perpetual calendar, which proclaims that ‘This tabell

⁸³ Hammer, pp. 258, 250-52.

⁸⁴ Wolfe, pp. 56, 76, 69. On both Leicester’s and Essex’s sustained interest in mechanics and appreciation especially of astronomical instruments and clocks, see pp. 18, 62.

⁸⁵ Hammer, p. 120.

begineth at 1593 and so for euer'.⁸⁶ It suggests both a radical break with the past and an uncompromising focus on the future, which, at that point, he had every reason to expect would last 'for euer'.⁸⁷ The instrument's multifunctionality extends this message, suggesting that even though he had never held high office before, Devereux was more than well equipped – both intellectually and practically – to carry out his new duties: as I would suggest here, it serves to demonstrate its owner's adaptability to a disparate variety of demands and tasks, carrying an important suggestion of competence. Confronted with the compendium's various and, to the untrained operator, mind-boggling applications, one is inevitably prompted to infer that mastery of the instrument's constituent parts equates to similar expertise in matters of political subtlety.⁸⁸ In the early 1590s, this took the form of Devereux's manifest interest – and personal investments – in intelligence-gathering and networking, for which the ability to manage, synthesise, and interpret various kinds of intelligence and then to report back on them – as indeed he did to Elizabeth – was crucial.⁸⁹

It is of course difficult to gauge if – and how – Essex used or displayed his compendium. Perhaps it served exclusively as a token of past triumphs and things not yet achieved, a constant reminder that political success did not happen overnight, that, like the instrument itself, it had to be forged by means of a laborious and workmanlike process. But maybe it also sat on his desk like one of the accoutrements strewn across the table in Hans Holbein's *The Ambassadors* (1533), its exquisite

⁸⁶ Turner, p. 228.

⁸⁷ He certainly hoped that it would outlast Elizabeth. Essex entertained diplomatic relations with James VI of Scotland throughout the 1590s, hoping to play a part in the settlement of the succession. Hammer, pp. 91-92, 164, 168-71.

⁸⁸ On the rise and importance of the 'expert mediator' as 'a knowledge broker and facilitator' in sixteenth-century England, see Eric A. Ash, *Power, Knowledge, and Expertise in Elizabethan England* (Baltimore/London: The Johns Hopkins University Press, 2004), pp. 8, 10-15. According to Ash, these expert mediators operated in the cultural vacuum that existed between practitioners or craftsmen and courtly patrons. Devereux belonged to a very different social class, but his self-transformation suggests a similar attempt to harness the expert's 'ability to translate their knowledge and skills into effective action', pp. 11, 16.

⁸⁹ Hammer, pp. 129-30, 346.

craftsmanship and technical expertise displayed to maximum effect in order to impress colleagues, underlings, perhaps even the many foreign dignitaries Devereux received and entertained in his London houses.⁹⁰ No matter what the intended audience for his compendium was, its iconography reflects the virtually limitless political ambition that would, eventually, cost him his life.

The symbolically inflected design of the port and harbour list engraved on the reverse of the compendium's upper disc is particularly revealing in this respect. It comprises thirty-nine locations and their latitudes that encircle Devereux's coat of arms in four circular rows. It is itself surrounded by the Garter and his personal motto, while the whole ensemble is surmounted by a crown. As indicated above, the list of ports engraved on the disc ranges from harbours in the British Isles (London, Edinburgh), to France, Germany, Austria, Italy, Spain, Portugal, and Greece, and further afield to Constantinople, Alexandria, Carthage, Cuba, and even 'Quinsey' (the Chinese city of Hangzhou).⁹¹ Paul Hammer reminds us that Devereux's diplomatic networks across Europe served the immediate purpose of gathering important information relevant to the Elizabethan state. But his extensive contacts also helped his own self-promotion, presenting him to Protestant and neutral allies as the sole advocate of Continental affairs in England, giving the impression that it was he – rather than the Cecils or the council – who ultimately swayed the queen's opinion on foreign policy.⁹² To have his coat of arms (and the somewhat smaller symbols of Tudor power) placed at the centre of an expanding circle of European and international locations as the compendium does was thus to mark his commitment to the cause of international Protestantism, or even his (self-proclaimed) monopoly on English foreign policy-making. Perhaps most important of all, the iconography

⁹⁰ Ibid., pp. 130-31.

⁹¹ Turner, p. 227.

⁹² Hammer, pp. 142-43.

identifies England (under Devereux's unofficial political leadership) as a central, and indeed defining, player on the stage of international affairs, with the rest of the European centres of power revolving around it in expanding circles. Not unlike the Molyneux globe, then, the compendium inscribes a vision of the world as Devereux undoubtedly liked to see it.

Not many people would have seen or had access to the compendium, as noted earlier. It may have been nothing more than an expensive toy that Devereux had made for his personal amusement. He may in fact have used it to study astronomy and navigation.⁹³ Perhaps it served primarily as a courtly symbol of wealth and power. Whatever its intended – or actual – audiences, ultimately, what the instrument's iconography reveals is the same fundamental discrepancy between political fact and fiction that we also saw in Elizabeth's near-contemporaneous response to the Molyneux globes. Like them, the Kynvyn compendium records a very particular world-view, a world-view that clashed with official Elizabethan policy and eventually led to Essex's downfall. Indeed, given the fact that it marked the beginning of his meteoric rise in the 1590s, it seems strangely fitting – or perhaps ironic – that the compendium seems to be the instrument he carried with him on the morning of his execution for treason on 25 February 1601 – eight years to the day after swearing the oath of supremacy that marked his remarkable transformation into one of Elizabeth's most influential privy councillors.⁹⁴ In bounding the beginning – and end – of Devereux's career as a statesman, this extraordinary instrument survives

⁹³ Ibid., p. 309.

⁹⁴ Ibid., p. 309n. See also Wolfe, p. 62. The identification, which both Hammer and Wolfe support, seems somewhat dubious. It was first established by F. R. Raines in an 1872 paper entitled 'The Pocket-Dial of the Earl of Essex', *Notes and Queries*, 9 (1872), pp. 9-10 (pp. 9-10). Raines quotes the will of Abdias Assheton, Essex's chaplain. In it, he bequeaths a pocket-dial or watch given to him on the morning of his execution by Essex to his cousin. Raines maintains that 'there can be little doubt that it refers to the identical pocket-dial made by Kynwin'. However, it seems strange to call an astronomical compendium a clock or watch, although it was capable of establishing the time.

as one of the most poignant and vivid records of a remarkable political career driven by unparalleled ambition.

A GAME OF THRONES: ELIZABETH I'S 1559 ASTROLABE

The final instrument I want to discuss in this chapter is the Gemini astrolabe that was presented to Elizabeth I in the year of her coronation, 1559 (*fig 5*). Gerald L'Estrange

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Turner speculates that this is the 'instrument of astronymye' commissioned and paid for by Robert Dudley, the future Earl of Leicester, as a corresponding entry in his

household accounts for May of that year suggests.⁹⁵ It is perhaps not quite as ostentatiously ingenious as the instruments I have discussed so far, but its iconography – albeit comparatively simple – and its unusual features seem particularly impressive and far-reaching in their political implications. This is also why I have chosen to discuss it last in my chapter, even though it antedates Devereux's pocket-compendium considerably.

The astrolabe bears two engravings directly identifying Elizabeth as its owner: the words 'Elizabeth Dei Gratia Angliæ & Hiberniæ Regina', and a royal coat of arms flanked by the initials E R (for Elizabeth Regina). In this respect, it hardly seems to differ from the two instruments Gemini constructed in the early 1550s for her half-brother, both of which employ a similar iconography, as we have seen. What sets this instrument apart is the symbolically charged location of its inscriptions.

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They fill the comparatively small yet prominent space (front and back respectively) at the top of the astrolabe known as the throne – a protruding piece of metal used as a means of orienting the instrument and of suspending it for observational use (*fig 6*).⁹⁶

⁹⁵ Turner, pp. 17-18, 109. *Household Accounts and Disbursement Books of Robert Dudley, Earl of Leicester, 1558-61, 1584-86*, ed. by Simon Adams, Camden Fifth Series (Cambridge: Cambridge University Press, 1995), VI, p. 66.

⁹⁶ The instrument is housed at the Museum of the History of Science in Oxford (inventory no. 42223). It can be accessed through the museum's online catalogue of astrolabes: 'Astrolabe Catalogue', *Museum of the History of Science, Oxford*

In terms of sheer size this smallest and easily overlooked part of the astrolabe hardly seems to commend itself for a tribute to a newly crowned monarch.⁹⁷ But the fact that either Gemini or perhaps Leicester himself – if indeed he commissioned the instrument, as seems likely – opted to use it as such suggests a conscious choice made for purely symbolic reasons.

The first and most general point to be made about this is also the most obvious. For Elizabeth's insignia and royal titles on the small roundel that forms part of the instrument's throne invite us in no uncertain terms to associate the artificial universe that the astrolabe represents with the political cosmos she had just inherited from her half-sister Mary. One throne very clearly stands in for the other, implying that if the astrolabe's throne served to stabilise the instrument for observational use, Elizabeth's accession to its political equivalent would do the same for mid-sixteenth-century England. This is a striking gesture, given the anxieties about royal supremacy and the monarch's female sex that surrounded Elizabeth's succession. As I argue here, these issues provide two specific and highly topical contexts within which to read the astrolabe's political symbolism.

The Elizabethan Religious Settlement, comprising the Acts of Uniformity and Supremacy (1558 and 1559), revived Henry VIII's original statutes, which unequivocally established the English monarchy's 'secular *imperium* and spiritual supremacy over their kingdom and national Church'. According to the Henrician acts, the monarch enjoyed both temporal and spiritual dominion over his or her

<http://www.mhs.ox.ac.uk/astrolabe/catalogue/browseReport/Astrolabe_ID=259.html> [accessed 22 August 2014].

⁹⁷ In the seventeenth century the astrolabe passed into the possession of John Greaves, Savilian Professor of Astronomy at the University of Oxford from 1643 to 1648. His younger brother Nicolas bequeathed the instrument to the university in 1659. Turner, p. 109. An engraving stretching in a semi-circle across the front of the astrolabe commemorates its provenance as well as Greaves's bequest. By contrast with Elizabeth's insignia, this later inscription seems almost lavish.

subjects and realms.⁹⁸ Gemini's astrolabe plays upon, and simultaneously emblematises, what Frances Yates has called this 'key-stone of the whole Tudor position [on kingship]'.⁹⁹ As we saw earlier, the astrolabe is essentially a star map, representing the celestial sphere which its operator is meant to use as a point of reference in order to establish his or her position on earth. Conceptually, the instrument provides a link between the terrestrial and the celestial worlds. To locate the symbols of Elizabeth's temporal dominion on the throne, which forms such a vital part of the instrument yet is located outside – or literally on top of – its artificial universe, is to suggest that, like the astrolabe itself, she too bridges a gap between earthly and celestial (or temporal and spiritual) kinds of power.

This is reinforced by one of the astrolabe's more unusual features. The universal projection device engraved on the back of the instrument reveals that unlike the other specimens I have discussed so far, this astrolabe is what is known as an *astrolabum catholicum* or a universal astrolabe. Traditional versions were limited in their applications because they could only be used at particular latitudes. But thanks to innovations promoted by the Dutch astronomer Gemma Frisius (1508-1555) in the first half of the sixteenth century, the *astrolabum catholicum* could be used anywhere in the world.¹⁰⁰ Of course, as a reigning monarch, Elizabeth would not have been expected to travel the globe, meaning that the universal projection would have been of little practical value to her. But what it did do was to remind her that, in theory, her dominion extended over the entire world.

However, even though Parliament did eventually come out in support of the Elizabethan Settlement, after Mary's reign anxieties about seeing another woman, let

⁹⁸ Guy, pp. 226-27.

⁹⁹ Frances A. Yates, *Astraea: The Imperial Theme in the Sixteenth Century* (London/Boston: Routledge & Paul Kegan, 1975), p. 39.

¹⁰⁰ Turner, p. 106.

alone a Protestant, on the English throne, were rife.¹⁰¹ From the very beginning, Elizabeth faced public attacks both on her own person and on the institution of female rule more broadly conceived. Of these, the Scottish theologian John Knox's ill-timed *First Blast of the Trumpet Against the Monstrous Regiment of Women* (1558) seems particularly vicious.¹⁰² It ventures an entire catalogue of complaints against 'the monstriferous empire of women', which Knox challenges on grounds of its being 'repugnant to nature, contumelie to God, a thing most contrarious to his reueled will and approued ordinance, and finalie it is the subuersion of good order, of all equitie and iustice'. This is specifically because women are 'weake, fraile, impacient, feble and foolishe', and, above all, 'vnconstant, variable, cruell and lacking the spirit of counsel and regiment'.¹⁰³ Therefore, 'wher soeuer women beare dominion, there must nedes the people be disordred, liuinge and abounding in all intemperancie, giuen to pride, excesse, and vanitie'.¹⁰⁴ Furthermore, apart from the moral and political chaos that Knox believes a woman's natural ineptitude for bearing the responsibilities of political office generates, her body moreover represents a contamination and monstrous perversion of the body politic of the nation, 'For ether doth it lack a laufull heade (as in very dede it doth) or else there is an idol exalted in the place of the true head'.¹⁰⁵ For Knox, it is evidently impossible to reconcile the queen's composite nature as a woman (in this case, an unmarried and childless woman) and a reigning monarch. As a source of weakness, inconstancy,

¹⁰¹ On the religious tensions that the settlement of 1559 prompted between various political and religious factions, see Wallace MacCaffrey, 'Politics in an Age of Reformation, 1485-1585', in *The Oxford History of Tudor and Stuart Britain*, ed. by Morrill, pp. 310-29 (p. 327).

¹⁰² It was written in response to the reign of Mary Tudor in England and Mary of Guise's Scottish regency between 1542 and 1560. Guy, p. 234.

¹⁰³ John Knox, *The First Blast Of The Trumpet Against The Monstrovs regiment of women* (Geneva, 1558), sigs E^v, B^r, B2^r; STC 15070.

¹⁰⁴ *Ibid.*, sig. B4^r.

¹⁰⁵ *Ibid.*, sig. D3^{r-v}.

foolishness, intemperance, excess, and vanity, the ruler's female sex prevents her from maintaining 'good order', and from exercising 'equitie and iustice'.

Elizabeth herself sought to sidestep the issue of female rule by laying claim to traditionally male domains of knowledge, of which the emergent disciplines of mathematics and astronomy – and the various kinds of instruments associated with them – were only two. Recent important re-evaluations of Elizabethan political iconography have revealed that throughout her reign, her considerable learning played a crucial role in negotiating political dissent and religious fraction. Linda Shenk, for instance, argues that adopting a 'discourse of philosophical transcendence' allowed Elizabeth 'to transcend myopic sectarian divisions', and thus to draw together the various political and religious factions that her court had divided into behind the cause of the crown.¹⁰⁶ Indeed, as early as 1559 Bishop John Aylmer emphasises that while women in general are 'vveake in nature, feable in bodie, softe in courage, vnskilfull in practise, not terrible to the enemy', Elizabeth represents a notable exception to the rule – quite literally. Among the various reasons he provides are her God-given personal virtues, which, importantly, include her 'rare learning, that singular modestie, that heauenly clemencie, that christiane constancie, that loue of religion, that excellent wysdom'.¹⁰⁷ This seems to corroborate Shenk's account, in which Elizabeth used her learning to present herself as a philosopher queen uniquely qualified for rule by virtue of her mastery of a substantial corpus of knowledge that included virtually the entire humanist curriculum.¹⁰⁸

¹⁰⁶ Linda Shenk, *Learned Queen: The Image of Elizabeth I in Politics and Poetry* (New York: Palgrave Macmillan, 2010), pp. 6-8, 123-25.

¹⁰⁷ John Aylmer, *An Harborovve For Faithfull And Trevve Svbiectes, agaynst the late blowne Blaste, concerning the Gouvernment of VVomen, [...] with a breife exhortation to Obedience* (London, 1559), sigs B2^v-B3^r, H3^v, I2^r; STC 1006.

¹⁰⁸ On the gendering of the humanist curriculum, then still a bastion of male privilege, see Lynn Enterline, *Shakespeare's Schoolroom: Rhetoric, Discipline, Emotion* (Philadelphia: University of Pennsylvania Press, 2012), pp. 14-16. Enterline argues that whilst it is being recognised how in 'Establishing a socially significant opposition between English and Latin, maternal and paternal

Astronomical instruments not only made a particular kind of transcendent or celestial knowledge available to earthbound spectators. As we saw earlier, they also emblematised the political (and traditionally male) virtues of prudence, competence, temperance, and order – qualities that polemicists like Knox categorically refused to admit in women. For Dudley to make a particularly ostentatious gift of such an instrument was above all to flatter Elizabeth, perhaps in the hope of incurring preferment at court. But I believe that it also served to reinforce a more topical message about the new queen's ability to govern, capitalising on her personal interest in contemporary instrument culture – an interest that she shared both with Leicester and with Essex.¹⁰⁹ Indeed, as early as 1546 the then Princess Elizabeth requested an astronomical ring dial of the mathematician William Buckley (1518/19-1551/52), a simpler version of the armillary sphere used for telling the time which he presented to her complete with a manual explaining its use.¹¹⁰ But the Gemini astrolabe of 1559 records one key moment in Elizabeth's life when personal and political interests

spheres of language and influence, schools self-consciously sought to intervene, materially and discursively, in the reproduction of normative gender categories', more critical work needs to be carried out on what constituted gender in the period, pp. 15, 17-18.

¹⁰⁹ Years later, Leicester would appeal to mechanics once again in order to pay Elizabeth an elaborate compliment. At the entertainment he gave for her at Kenilworth Castle in 1575 he stopped one of the castle's clocks at two o'clock, prompting speculation as to the numerological significance. The London mercer Robert Langham, who attended the festivities, reports: 'The clockbell that iz good & shrill, waz commaunded too silens at fyrst, and in déed sang not a note all the while her highnes waz thear, the klok stood allso still withal. But mark noow: whither wear it by chauns, by constellacion of starz, or by fatall appointment (if fatez & starz doo deal with dyallz). Thus waz it in deed: The hands of both the tablz stood fym & fast allweyz pooynting to iust too a klok, styll at too a klok. Which thing beholdding by hap at fyrst: but after, seriously marking in déed: emprinted vntoo me a déep sign & argument certein. That this thing amoong the rest waz for full signiffiauns of hiz Lordships honorabl, frank, freendly & nobl hart toward all estatez'. According to Langham, the number two signifies 'a freendle coniunction of too onez: that kéeping in a sinceritee of accord, may purport vntoo vs, Charitee each too oother, mutuall looue, agréement & integritée of friendship withoout dissimulation'. Robert Langham, *A Letter: whearin, part of the entertainment untoo the Queenz Maiesty, at Killingwoorth Castl, in warwik Sheer, in this soommerz Progress, 1575* (London, 1575?), pp. 76, 74; STC 15190.5. Langham's explanation of Leicester's extraordinary gestures seems eminently plausible. But given what I have argued about the astrolabe that Leicester presented to her in 1559, it seems just as likely that the act of stopping the clock represented another public tribute to the universal and timeless qualities that Elizabeth cultivated by means of her royal personae, especially that of the Virgin Queen (to stop the clock at two would have meant that its indicators spelt the letter 'V'). Langham's letter is mentioned in a different context in Michael West, 'Spenser's Art of War: Chivalric Allegory, Military Technology, and the Elizabethan Mock-Heroic', *Renaissance Quarterly*, 41.4 (1988), 654-704 (pp. 696n, 698n).

¹¹⁰ Thompson Cooper, rev. Anita McConnell, 'Buckley, William (1518/19-1551/2)', *ODNB*.

collided. Since the instrument seems to have been a personal gift, and its audience limited to those closest to her, I would not wish to overemphasise the impact that the astrolabe's iconography had upon contemporary perceptions of Elizabeth outside the court. But as I want to suggest in the next and final section of this chapter, Elizabeth's Gemini astrolabe nevertheless sheds new light on the ways in which political fictions operated in late Tudor culture. For unlike the other astronomical instruments I have discussed, aspects of its imagery seem to resurface in later (textual) attempts to reinforce the legitimacy of female rule by appeal to the superior, astronomical corpus of knowledge that the instrument emblematises so neatly.

JOHN CASE'S *SPHÆRA CIVITATIS*

It was no coincidence, nor indeed mere rhetoric, when towards the end of 1588 Thomas Hood reminded the audience that attended his first mathematical lecture – instituted as a patriotic endeavour following the defeat of the Spanish Armada – that ‘In heauen Astronomie dooth raigne as Queene, commanding all the secrets thereof, and laying them open to our eyes’.¹¹¹ In concluding this chapter, I want to briefly address a particularly spectacular instance of political propaganda from the later years of Elizabeth's reign that closely resembles the political iconography of Elizabeth's 1559 astrolabe. This is not to suggest a direct connection between it and the (textual) device I am about to discuss, but merely to draw attention to a particularly fertile interaction of mathematical, instrumental, and political cultures in the late sixteenth century.

In 1588, the same year that Thomas Hood started his mathematical lectures, the Oxford philosopher and physician John Case (1540/41-1600) published his

¹¹¹ Thomas Hood, *A Copie of the Speache: Made by the Mathematicall Lecturer, unto the Worshipfull Companye present. At the house of the Worshipfull M. Thomas Smith, dwelling in Gracious Street: the 4. of Nouember, 1588.* T. Hood (London, 1588), sig. Bii^r; BL shelfmark 529.g.6.(1). Ash, p. 158.

monumental eight-hundred-page treatise, the *Sphæra Civitatis*, a substantial Latin commentary on Aristotle's *Politics* that discusses everything from kingship, rebellion, inflation, and the death penalty, to profit and commerce, the advantages and disadvantages of a federal union, breast-feeding, and baby clothes, as J. W. Binns writes.¹¹² According to him, the *Sphæra Civitatis* is 'the largest, the most thorough and systematic, and the most rigorous discussion of political theory and practice to survive from sixteenth-century England'.¹¹³ It is remarkable not only for its formidable size and intellectual scope, but for the highly original woodcut printed on the verso of its title page, with which I am concerned here. As we will discover, its visual arrangement on the printed page bears a striking similarity to Gemini's 1559 astrolabe, evoking a corresponding political message.

The illustration (*fig 7*) depicts the elaborately sculpted torso of Elizabeth in full state presiding over a heavily politicised model of the geocentric solar system, or, as Jean Wilson has put it, 'a Ptolemaic commonwealth'.¹¹⁴ In addition to the customary planetary signs, the artist, presumably Case himself, has recorded the political virtues associated with monarchical rule. The outermost circle of the *primum mobile* proclaims Elizabeth's royal titles – Queen of England, France, and Ireland, and Defender of the Faith – followed in contracting circles by the classical imperial virtues MAIESTAS (majesty), PRVDETIA (wisdom), FORTITVDO (fortitude), RELIGIO (right religion), CLEMENTIA (mercy), FACVNDIA (resourcefulness), and VBERTAS RERUM (plenty).¹¹⁵ At the centre resides IVSTITIA IMMOBILYS or immoveable justice, the primary attribute to Astraea, the

¹¹² J. W. Binns, *Intellectual Culture in Elizabethan and Jacobean England: The Latin Writings of the Age* (Leeds: Francis Cairns, 1990), p. 368.

¹¹³ *Ibid.*, pp. 367-68.

¹¹⁴ Jean Wilson, 'Queen Elizabeth I as Urania', *Journal of the Warburg and Courtauld Institutes*, 69 (2006), 151-73 (p. 173).

¹¹⁵ John Case, *Sphæra Civitatis*, *Avthore Magistro Iohanne Caso Oxoniensi* (Oxford, 1588), sig. ¶^v; STC 4761.

mythological goddess of justice closely associated with Elizabeth throughout her reign and an important cornerstone of what Yates calls the “‘imperial’ idea’ of Elizabethan England.¹¹⁶

The imagery of this remarkable illustration seems to resemble the iconography of Gemini’s 1559 astrolabe in three important ways. The first has to do with its carefully orchestrated conflation of heavenly and earthly – or spiritual and temporal – realms. Ingeniously, Case has placed Elizabeth’s royal titles (including ‘FIDEI DEFENSATRIX’ or defender of the faith) in the outmost sphere, the *primum*

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mobile. In classical and medieval cosmography, this was considered the highest or Empyrean heaven, providing motion to the entire cosmos. It was also the seat of

¹¹⁶ Yates, pp. 65, 38. On Elizabethan imperial imagery, see also Roy Strong, *Gloriana: The Portraits of Queen Elizabeth I* (London: Thames and Hudson, 1987), pp. 133-35; and Andrew Belsey and Catherine Belsey, ‘Icons of Divinity: Portraits of Elizabeth I’, in *Renaissance Bodies: The Human Figure in English Culture c. 1450-1660*, ed. by Lucy Gent and Nigel Llewellyn (London: Reaktion Books, 1990), pp. 11-35.

God. To place the signs of Elizabethan power there seems clearly intended to associate her claim to earthly rule with a divinely sanctioned and corresponding claim to spiritual dominion. This idea is reinforced by an explanatory poem on the opposite page, which addresses her as ‘Tu VIRGO, REGINA Potens, tu MOBILE PRIMVM / ELISABETHA’, extolling her as ruler over ‘ORBIS, & VRBIS’, the world and the city.¹¹⁷ Given the historical context of Case’s *Sphæra* – 1588 was of course the year of the Spanish Armada – this lends the imperial imagery of the woodcut a highly topical dimension. For ‘urbi et orbi’ is the customary papal blessing extended to the city (of Rome) and the entire world on various feast days of the Catholic Church. To include it in a poem extolling a Protestant monarch seems a bold move, especially given the fact that Elizabethan England had just narrowly escaped Catholic invasion. Like the Gemini astrolabe, then, the woodcut suggests that Elizabeth too bridges a gap between earthly and celestial (or temporal and spiritual) kinds of power, a claim vindicated and heightened by unfolding English triumphs against political (and religious) adversaries.

A second parallel between Case’s *Sphæra* and Gemini’s astrolabe suggests itself in a shared emphasis on stability and gravity. As I explained above, Elizabeth’s royal titles and insignia on the instrument’s throne suggest a parallel between its artificial universe and the political world of Elizabethan England, implying that she was vital to both as a stable point of reference. Here, Elizabeth occupies a similar position, her crowned head and the billowing sleeves of her dress mimicking a throne’s roundel and base. They serve to create the impression that it is her firm but caring grip on the *Sphæra Civitatis* that keeps it in balance.

¹¹⁷ Case, sig. ¶2^r. By 1588, the imperial image of the Virgo-Astraea was well established, as Yates notes. Yates, pp. 50-51, 53.

The third and final aspect of the illustration's imagery that I want to address here pertains to the way it presents female rule. As Jaqueline Broad and Karen Green remind us, Elizabeth habitually emphasised the divinely sanctioned authority of the monarch's essentially sexless body politic, seeking to gloss over the inadequacies commonly associated with the female body by appeal to the doctrine of the king's two bodies.¹¹⁸ In the 1580s and 1590s her various royal personae, particularly that of the Virgin Queen that Case seems to employ here, proved useful to the project of associating her own body with the body politic of the English commonwealth. Susan Kendrick suggests that 'the image transformed the iconography of the marriageable queen into a quasi-hermaphroditic image of male and virginal (thereby unsexed) female' which rendered her 'more than human' and thereby 'a symbol of an intact, inviolate nation'.¹¹⁹ Case's illustration inscribes a similar idea. For as the *primum mobile*, Elizabeth forms an integral, indeed vital, part of the political cosmos over

¹¹⁸ Jacqueline Broad and Karen Green, *A History of Women's Political Thought in Europe, 1400-1700* (Cambridge: Cambridge University Press, 2009), pp. 98-100. See also Helen Hackett, 'The Rhetoric of (In)fertility: Shifting Responses to Elizabeth I's Childlessness', in *Rhetoric, Women and Politics in Early Modern Europe*, ed. by Jennifer Richards and Alison Thorne (London: Routledge, 2006), pp. 149-71. On the doctrine of the king's (or the queen's) two bodies, see Marie Axton, *The Queen's Two Bodies: Drama and The Elizabethan Succession* (London: Royal Historical Society, 1977), pp. 11-12. Axton notes Elizabeth's status as 'a virgin queen [with] no immediate heir to the throne' was unprecedented, meaning that 'for the purposes of the law it was found necessary by 1561 to endow the Queen with two bodies: a *body natural* and a *body politic*. [...] The Queen's natural body was subject to infancy, infirmity, error and old age; her body politic, created out of a combination of faith, ingenuity and practical expediency, was held to be unerring and immortal'. Cf. Ernst H. Kantorowicz's classic study, *The King's Two Bodies: A Study in Mediaeval Political Theology* (Princeton: Princeton University Press, 1957), esp. pp. 7, 12-13, 20-21. Jennifer Rust offers an important critique of Kantorowicz's work on the doctrine's fictitious and metaphorical aspects in 'Political Theologies of the *Corpus Mysticum*: Schmitt, Kantorowicz, and de Lubac', in *Political Theology and Early Modernity*, ed. by Graham Hammill and Julia Reinhard Lupton (Chicago/London: The University of Chicago Press, 2012), pp. 102-23.

¹¹⁹ Susan Kendrick, *Elizabeth I's Use of Virginity to Enhance Her Sovereignty: Managing the Image of a Sixteenth-Century Queen* (Lewiston: The Edwin Mellen Press, 2009), pp. 46, 48. Cf. Walter Raleigh's near-contemporaneous *The Ocean to Cynthia*, of which only the twenty-first and last book survives. In it, he (the Ocean) not only laments the timeless and undying love that Elizabeth (Cynthia or the moon) has inspired in him, but he also praises her 'beauty, braving heaven and earth embalming'. *Sir Walter Raleigh: "The Shepherd of the Ocean"; Selections from His Poetry and Prose*, ed. by Frank Cheney Hersey (New York: Macmillan, 1916), pp. 31, 34. Like Case's *Sphaera*, the fragment emphasises Elizabeth's purity, which makes her appear aloof and superhuman. There is little suggestion that the speaker is in love with an actual woman. John Guy reminds us that Elizabeth was particularly astute in exploiting her own gender as a political tool, the conceit or "game" of courtship that she imposed upon her leading courtiers providing her with 'weapons of political manipulation and manoeuvre'. Guy, p. 234.

which she presides. But at the same time, she also transcends it. She is clearly recognisable as a woman, but her body is located outside the *Sphaera* proper. In Laura Janara's words, it shows her assuming the 'unencumbered, ahistorical standpoint' of the Machiavellian prince.¹²⁰ It is not Elizabeth herself, but her abstract political virtues that permeate the political sphere as Case portrays it, overcoming the potentially jarring contradiction between her female body and the male world of government within which it must operate.

Gemini – or rather, Leicester – had achieved a similar effect by having Elizabeth's royal titles and coat of arms engraved on the astrolabe's throne. As we saw earlier, astronomical instruments emblematised the traditionally male virtues of prudence, competence, temperance, and order. By 1588, it has evidently become commonplace to attribute these qualities to Elizabeth. The parallels between Case's *Sphaera Civitatis* and Gemini's 1559 astrolabe thus prompt two related conclusions: above all, they seem to validate my reading of the instrument, suggesting that its iconography belongs to a wider tradition of figuring Elizabethan power in the second half of the sixteenth century. And even if the resemblance between Case's illustration and the astrolabe's symbolism is purely coincidental – as seems likely – it nevertheless reveals something significant about the way that political fictions were created and perpetuated in the period: for the presence of similar kinds of iconography across disparate textual and mechanical media attests that literary, mechanical (or instrumental), and political kinds of invention lived side by side in the early modern imagination.

CONCLUSION

¹²⁰ Laura Janara, 'Machiavelli, Elizabeth I and the Innovative Historical Self: A Politics of Action, not Identity', *History of Political Thought*, 27.3 (2006), 455-85 (p. 460).

Sixteenth-century mathematical instruments performed many functions, prized for their didactic and practical applications but also, and most especially, for their symbolic qualities. As we have seen in this chapter, globe, astrolabe, and compendium act as story-telling devices and time capsules of sorts, painting vivid pictures of their owners' intellectual habits, self-perceptions, and of the events that shaped their lives. Together, they constitute powerful records of political identity and ideological change during the formative years of the English Renaissance. In the first part of my chapter, I investigated the role that geographical globes, specifically, the Molyneux globes of 1592, played in the articulation and perpetuation of late Elizabethan dreams of empire. As I demonstrated, they served above all to lend an appearance of mathematical probability to contemporary geopolitical ambition, the iconography of the terrestrial globe in particular being carefully designed to sway public opinion, perhaps even to prompt policy change. Their failure to do so reminds us that, occasionally, even a propaganda machinery as finely tuned as the Elizabethan one was ultimately bounded by political reality.

In the second part, I revisited some of the Tudor era's most iconic astronomical instruments, arguing that as specialist tools associated with exclusive kinds of knowledge they lent themselves particularly well to the communication of corresponding intellectual and political virtues. We saw the fall of Protector Somerset and the rise of the Duke of Northumberland cast long shadows over the artificial universe presented to Edward VI in 1552 in the form of a Gemini astrolabe. We read Robert Devereux's self-transformation from soldier into one of Elizabeth's most powerful courtiers in the gilded-brass pages of his astronomical compendium. And with the earl of Leicester, we played a Tudor game of thrones, paying elaborate homage to a new monarch and supreme ruler over England's spiritual and temporal

realms. As I have argued throughout, most of these devices reflect something very specific about their owners' self-perception, or about the aspirations of the men (and women) who commissioned them. But what they have in common is the underlying idea that, like a mechanical instrument, both personal and national histories could be made – in the technical sense of the term implicit in the concept of *technē* – or, if necessary, (re)invented. Robert Recorde writes that mathematical instruments are but 'diuers representations' of the real world.¹²¹ Perhaps astrolabe, globe, and compendium appealed to men like Northumberland, Essex, and Leicester because their gilded-brass bodies suggested that it was possible to forge a 'golden' world of possibility from the 'brasen' one that they lived in.¹²²

¹²¹ Recorde, p. 35.

¹²² Sir Philip Sidney, *An Apologie for Poetrie* (London, 1595), sig. C^r; STC 22534.

2. 'SUBTILE ENGINES': SPENSER AND THE MECHANICS OF ALLEGORY IN *THE FAERIE QUEENE*

In the previous chapter I sought to illuminate how mathematical instruments shaped perceptions of late Tudor politics. Here I investigate the several ways in which an eclectic array of engines, instruments, machines, and mechanisms informs the politics of Spenserian allegory in *The Faerie Queene* (1590, 1596), where they testify to a similar relationship between material and rhetorical kinds of instrumentality. If the political iconographies of globe and astrolabe reveal something to us about the making of political fictions in the period, Spenser's various allegorical machines speak to us about forging literary ones.

Traditionally, neither his own friends nor his many modern critics have given Spenser much credit for his remarkable knowledge of contemporary mechanics and science, a deficiency which a number of new studies have recently sought to remedy.¹ For instance, his friend, the poet and scholar Gabriel Harvey (1552/3-1631), complained that even though familiar with the sphere and astrolabe, Spenser remained wholly ignorant of the wider implications of contemporary astronomical practice.² But as we will discover in this chapter, *The Faerie Queene* in particular

¹ See for example Mary Thomas Crane, 'Spenser's Giant and the New Science', in *Go Figure: Energies, Forms, and Institutions in the Early Modern World*, ed. by Judith H. Anderson and Joan Pong Linton (New York: Fordham University Press, 2011), pp. 19-37; Nick Davis, 'Desire, Nature, and Automata in the Bower of Bliss', in *The Automaton in English Renaissance Literature*, ed. by Wendy Beth Hyman (Farnham, UK/Burlington, VT: Ashgate, 2011), pp. 163-79; Donald Kimball Smith, *The Cartographic Imagination in Early Modern England: Re-writing the World in Marlowe, Spenser, Raleigh, and Marvell* (Aldershot, UK/Burlington, VT: Ashgate, 2008); James Fisher, 'Certaine Signes of the Zodiack: The Shape of Spenser's Allegory in Book II of *The Faerie Queene*', *Constructions*, 8 (1993), 9-35, and James Fisher, 'Signs and Seasons in Edmund Spenser's *Faerie Queene*', *Journal for Interdisciplinary Studies*, 5 (1993), 57-76.

² *Gabriel Harvey's Marginalia*, ed. by G. C. Moore Smith (Stratford-upon-Avon: Shakespeare Head Press, 1913), p. 162, ll. 32-34. The Latin footnote in Harvey's copy of Dionysius Periegetes's *Surueye of the World* (1572) reads: 'Pudet ipsum Spenserum, etsi Sphæræ, astrolabijque, / non planè ignarum; suæ in astronomicis Canonibus, / tabulis, instrumentisque imperitiæ' ('This puts Spenser to shame, even if he is not entirely ignorant of the sphere and the astrolabe; his ignorance being in astronomical rules, tables, and instruments').

demonstrates a wide-ranging interest in virtually all aspects of early modern mechanical culture, containing a variety of instruments, machines, and engines that animate its allegorical machinery in surprising and imaginative ways. These include instruments of everyday use, *mirabilia* inherited from the medieval romance tradition, implements of warfare and torture, instrumental visions of the human body, mechanical imitations of nature, and rhetorical instruments or ‘crafty engines’ associated with dissimulation and ‘faire semblaunce’.³ Here I examine a variety of allegorically charged alienation effects (*Verfremdungseffekte*) that various military engines, miraculous automata, allegorical embodiments of *technē*, and precision instruments inspire in Books I, II, and V of *The Faerie Queene*. Derived in part from classical and medieval literatures, in part from Spenser’s experience of colonial warfare in Ireland, together these balance the poem’s potentially idolatrous project of ‘*fashion[ing] a gentleman or noble person in vertuous and gentle discipline*’ – of creating an ideal reader in its own image – thereby mediating the potentially dangerous gap between legitimate image and deceptive idol that vexed poetic endeavours in post-Reformation England (LR 714.8).

John King contends that ‘It is erroneous to presume that “Protestant suspicion” of allegory makes this mode a “peculiar form” for Spenser to use as a “self-consciously Reformed poet”’. To the contrary, he argues that under the influence of Augustinian epistemology sixteenth-century reformed theology approved of allegory as ‘a pleasing vehicle for conveying religious and moral truth’, which, by mobilising the memory, enabled ‘the recovery of what mankind has lost as

³ Edmund Spenser, *The Faerie Queene*, ed. by A. C. Hamilton, Hiroshi Yamashita, and Toshiyuki Suzuki, rev. 2nd edn (Harlow: Pearson Longman, 2007), III.i.57, 54. All subsequent quotations from the poem, its prefatory material, appendices, and the ‘Letter to Raleigh’ refer to this edition unless otherwise specified and will be provided in the text.

a consequence of the Fall'.⁴ But as Jennifer Summit reminds us, although allegory 'shifted venue from monastery to court' during Spenser's lifetime it continued to carry the stigma of dissimulation and artifice that the Reformation had sought to eradicate.⁵ This rendered the subjection of the imagination to reason crucial to the production of true images.⁶ In Arthur's words to Una in Book I, 'Flesh may empaire (quoth he) but reason can repaire' (I.vii.41.9). While the flesh is subject to the fancies of an unbridled imagination – as Una's is to excessive grief that 'breeds despaire' – 'goodly reason, and well guided speach' may 'direct my thought' and thereby 'yield reliefe', as she admits (I.vii.41.6; 42.1, 7-8). As we will discover in the following pages, no image or metaphor throughout *The Faerie Queene* embodies 'goodly reason, and well guided speach' better than the early modern engine and its various mechanical relatives.

Throughout the period, the word 'engine' carries a variety of positive and negative connotations allied with related concepts of cunning and inventiveness. Etymologically, it is related to the idea of *ingenium* or ingenuity, also standing for literary skill.⁷ As Rayna Kalas reminds us, even though modernity no longer recognises the intimate relationship of *technē* and *poiēsis*, in the Renaissance mechanical and literary kinds of invention shared a common source in human ingenuity or wit.⁸ Thus, both Sidney and Puttenham speak of the poet as a 'maker' or master craftsman of 'no smal dignitie and preheminance, aboue all other artificers, Scientificke or Mechanicall' who, God-like, 'makes and contriues out of his owne

⁴ John N. King, *Spenser's Poetry and the Reformation Tradition* (Princeton: Princeton University Press, 1990), pp. 76-78. In the Proem to Book II Spenser invokes the Reformed view of allegory by presenting the poem's 'famous antique history' as the 'matter of iust memory' (II.Proem.1.2, 5).

⁵ Jennifer Summit, *Memory's Library: Medieval Books in Early Modern England* (Chicago/London: The University of Chicago Press, 2008), pp. 122-23.

⁶ King, p. 78.

⁷ *OED Online*, 'engine, n'.

⁸ Rayna Kalas, *Frame, Glass, Verse: The Technology of Poetic Invention in the English Renaissance* (Ithaca/London: Cornell University Press, 2007), p. 1.

braine, both the verse and matter of his poeme'.⁹ In this chapter, I argue that by revealing themselves as 'things made' – as 'framing devices and signs of [the poem's] own createdness' – the various mechanical devices that litter the allegorical land- and mind-scapes of *The Faerie Queene* serve to distance the poem's moral allegory from the mechanisms of its own production.¹⁰ In so doing, they effect the necessary separation of imagination from reason that Arthur alludes to in Book I, thereby regulating what Kenneth Gross has termed the poem's 'poetics of idolatry'.¹¹ And they also serve as a constant reminder of the fact that our response to the poem's richly allusive and dangerously immersive worlds is circumscribed by the poet's wit. If it is Arthur's eloquence that restores Una's faith in salvation in Book I, it is Spenser's ingenuity that fires the engines of our own moral reformation throughout. Ultimately, it is the concept of making attaching to *technē* that enables Spenser to interrogate, and to legitimise, *The Faerie Queene*'s processes of allegorical image-making, processes that jarred with contemporary concerns 'about the iconic and seductive capacities of eloquence', as Linda Gregerson writes.¹²

In the following pages I examine a number of episodes in which various engines, automata, and instruments mediate reader response in this way, starting with a brief discussion of Redcrosse and Arthur's fight with Orgoglio in Book I. Here, Spenser employs two sets of military engines to focus attention on, and to explicate,

⁹ Sir Philip Sidney, *An Apologie for Poetrie* (London, 1595), sig. C^r; STC 22534. George Puttenham, *The Arte of English Poesie. Contrived into three Bookes: The first of Poets and Poesie, the second of Proportion, the third of Ornament* (London, 1589), p. 1; STC 20519.5.

¹⁰ Stephen Greenblatt, *Renaissance Self-Fashioning: From More to Shakespeare*, With a new Preface (Chicago/London: University of Chicago Press, 2005 [1980]), p. 190. Maureen Quilligan conceives of allegories in similar terms as 'webs of words woven in such a way as constantly to call attention to themselves as texts'. Maureen Quilligan, *The Language of Allegory: Defining the Genre* (Ithaca/London: Cornell University Press, 1979), p. 25.

¹¹ Kenneth Gross, *Spenserian Poetics: Idolatry, Iconoclasm, and Magic* (Ithaca/London: Cornell University Press, 1985), p. 27.

¹² Linda Gregerson, *The Reformation of the Subject: Spenser, Milton, and the English Protestant Epic* (Cambridge: Cambridge University Press, 1995), p. 6. On the materiality of early modern words, see Margreta de Grazia, 'Words as Things', *Shakespeare Studies*, 28 (2000), 231-35; and Judith H. Anderson, *Words That Matter: Linguistic Perception in Renaissance English* (Stanford: Stanford University Press, 1996), chs 4 and 6.

the Protestant workings of *The Faerie Queene*'s allegorical machinery, establishing a rhetorical pattern for defeating (interpretive) error that remains in place throughout the poem. We will come to appreciate Phaedria's little-discussed automatic boat in Book II as a source of illicitly seductive imagery on the one hand, and as an intertextual mechanism for generating internal commentary on its idolatrous potential on the other, inscribing a vital difference between true likeness and the pleasures of 'painted forgery' that underwrites Spenser's moral allegory throughout the poem (II.Proem.1.4). The Malengin episode in Book V will remind us of the allegorist's difficulties in containing the polysemous meanings allegorical wordplay gives rise to and which Malengin's wild and uncontrollable transformations embody. As we will see, for Spenser to break him on the wheel of poetic decorum is to exercise authorial control over the 'by-accidents' of meaning that allegorical writing – and reading – tends to generate, as he notes in the 'Letter to Raleigh' (LR 714.7). I conclude with a short analysis of the Egalitarian Giant's scales in Book V, canto ii, which aptly balance *The Faerie Queene*'s twin impulses of seeking to valorise and to mediate the iconic power of the early modern word in a manner that reflects upon Spenser's allegorical machinery in its entirety.

As I will maintain throughout this chapter, the various instruments, engines, and machines Spenser alludes to both in these episodes and elsewhere in the poem mobilise a surprising variety of associations touching upon related concepts of poetic and mechanical making. In so doing, they illuminate various aspects of the vexed relationship between image, likeness, and idol that is of central concern to his literary project. Ultimately, I shall argue that early modern concepts of the machine are particularly useful to Spenser in this respect because they permit him to imagine literary creation (*poiēsis*) in terms of material acts of making (*technē*) and vice versa,

and thereby to bridge the various post-Reformation (and post-Aristotelian) gaps between ‘metaphorical and material dimensions of meaning, between concept and history, or between words and things’, as Judith Anderson puts it.¹³ For him to mine the various etymological and literary associations encoded in the word engine and related mechanisms invoked throughout *The Faerie Queene* is to recuperate a legitimate form of poetic making that balances the several, and often contradictory, demands placed upon Elizabethan England’s self-proclaimed national poet.¹⁴

‘SUBTILE ENIGMS’: TAKING PRIDE IN POETIC INGENUITY

The Orgoglio episode in Book I of *The Faerie Queene* is in many ways representative of the various rhetorical strategies Spenser employs not simply to draw attention to the poem’s allegorical mechanisms, but also to demonstrate how allegorical wordplay may reveal profound literary and moral truths. My brief discussion of the giant’s rise and fall, which is framed by related similes of military ‘engines’ (at I.vii.13 and I.viii.23 respectively), serves to elucidate the etymological and metaphorical meanings the word ‘engine’ gives rise to both here and throughout the poem. A personification of pride and one of the spiritual challenges Redcrosse faces in Book I, Orgoglio is introduced as ‘An hideous Geaunt horrible hye’, the offspring of earth and wind and ‘growen great through arrogant delight / Of th’high descent, whereof he was yborne’ (I.vii.8.4, 9.1-2, 10.1-2).¹⁵ His conquest of Redcrosse, whom he finds ‘Disarmd, disgraste, and inwardly dismayde’ by improper

¹³ Judith H. Anderson, ‘Weighing Words with Spenser’s Giant’, in *Soundings of Things Done: Essays in Early Modern Literature in Honor of S. K. Heninger Jr.*, ed. by Peter Medine and Joseph Wittreich (Newark: University of Delaware Press/London: Associated University Press, 1997), pp. 70-92 (p. 70). On the failure of the ‘Aristotelian scientific synthesis’ in the late sixteenth century and its impact upon Spenser, see Crane, pp. 20, 36.

¹⁴ Richard Helgerson discusses Spenser’s laureate ambitions as England’s first self-professed national poet in *Self-Crowned Laureates: Spenser, Jonson, Milton and the Literary System* (Berkeley/Los Angeles/London: University of California Press, 1983), pp. 55, 60, 68, 82, 100.

¹⁵ At I.vii.9.8, Spenser describes Orgoglio as ‘this monstrous masse of earthly slyme’, which also suggests a pun on the Roman mass. See King, p. 214.

servitude to Duessa, is marked by an extended military simile that likens the giant's irresistible wrath to a cannon or 'diuelish yron Engin wrought / In deepest Hell, and framed by *Furies* skill', its 'windy Nitre and quick Sulphur' a subtle parody of his 'boasted' Aeolian parentage (I.vii.11.6, 13.1-3, 9.2). A corresponding image allegorises Orgoglio's defeat at Arthur's hands later on in Book I, which compares his downfall to 'a Castle reared high and round, / By subtile engins and malicious slight / [...] vndermined from the lowest ground' (I.viii.23.1-3). As Patricia Palmer reminds us in her recent study of literature and violence in early modern Ireland, Spenser was no stranger to the realities of siege warfare, making *The Faerie Queene* 'possibly the most remarkable work of literature to be written from the midst of violence'.¹⁶ And there is certainly something of what she calls 'the messiness of [historical] events' in Book I's 'allegorised, providential history'.¹⁷ But as I argue here, if it is the violence of colonial conquest that erupts through the allegorical surface of the poem by means of Spenser's military similes, they also provide a particularly poignant example of the metapoetic functions that the various machines and engines alluded to in the poem perform (I.viii.23.2).

On both occasions, the formula 'As when' or 'as' identifies the images that follow as similes, thereby announcing their status as literary devices and drawing our attention to the fact that in Book I, as indeed throughout *The Faerie Queene*, the moral and theological allegory operates by comparison or likeness. But it is the 'subtile engins' Spenser invokes to frame the Orgoglio episode that perform the real work of allegorical figuration. Marking his ascendancy over Redcrosse at I.vii.13,

¹⁶ Patricia Palmer, *The Severed Head and the Grafted Tongue: Literature, Translation and Violence in Early Modern Ireland* (Cambridge: Cambridge University Press, 2014), pp. 67-68. As Palmer notes, Spenser witnessed the massacre at Smerwick, he was in Dublin to receive Sir John Norris's severed head, he was present at the execution of the Armada survivors, and he experienced siege warfare at the sack of Dunluce Castle in Antrim. For a brief summary of Spenser's career as a colonial administrator in Ireland, see Andrew Hadfield, *Edmund Spenser's Irish Experience: Wilde Fruit and Salvage Soyl* (Oxford: Clarendon Press, 1997), pp. 17-20.

¹⁷ Palmer, p. 78.

Spenser's choice of words invites associations of 'diuelish' *technē* and cunning throughout. The cannon to which Orgoglio is compared is an 'Engin wrought' and 'framd by *Furies* skill', 'ordaind' (or devised) to wreak destruction and to 'conceiu[e] fyre', all of which are terms that evoke artifice, a conscious effort or agenda, and above all a cunning form of skill (I.vii.13.1-5). This skill is clearly infernal and therefore allied to sin, highlighting 'the villeins powre' over the Redcrosse knight, which is the power of pride and irresolute 'looseness' that Duessa's machinations have exposed him to (I.vii.12.7, 7.2). But the stanza's evocation of infernal cunning also tells another story, pointing beyond its own conceit towards a greater wit or skill at work in the episode. And that wit is neither Duessa's 'crafty cunning traine' nor Orgoglio's 'huge force and insupportable mayne' (I.vii.1.2, 11.2). Rather, it is the literary cunning of the allegorist, which conspires to render the complex moral and theological issues at stake here intelligible to his readers.

The word 'engine' performs a crucial function in this context. As Jonathan Sawday reminds us, in the early modern period 'the idea of the "engine" was [...] [r]elated to the idea of *ingenium* or human ingenuity', standing for contrivance and what he calls 'cunning inventiveness', but also for literary skill and poetic wit.¹⁸ Here, it means both of these things. As indicated above, a machine invented and 'ordaind' for the sole purpose of wreaking destruction and death, the 'yron Engin' possesses clearly defined hellish connotations allying Orgoglio, whom it represents, with the snares of sin that Redcrosse must overcome. The extended simile of hellish cannon fire thus reminds us of the spiritual battles that it signifies and that the knight of holiness is fighting both here and throughout Book I. And these battles, Spenser

¹⁸ Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (London/New York: Routledge, 2007), pp. 271-72.

seems to imply, are our own: it is not only Redcrosse who finds himself overthrown as ‘with the winde’, but ‘*none* can breath, nor see, nor heare at will / Through smouldry cloud of duskish stincking smok’ (I.vii.12.8, 9.7-8, my emphasis). If Redcrosse’s challenge is to detect the source of his own corruption in Duessa’s ‘fowle words tempr[ed] faire’, it is our challenge as readers to separate the emotional impact of Spenser’s imagery from the means of its production and thus to recognise in his poetic wit the engine of our moral reformation (I.vii.3.9). His image of the ‘diuelish yron’ war machine not only prompts us to reflect on the ambiguous meanings of the word ‘engine’, but it also serves to remind us of the moral choice that separates cunning from ingenuity.

The second set of ‘subtile engins’, which describes his defeat by Arthur and thus concludes Orgoglio’s storyline, likewise evokes cunning: ‘as a Castle reared high and round’, the giant is overthrown ‘By subtile engins and malicious slight’ (I.viii.23.1-2, 2n). If the castle ‘high and round’ represents the giant’s proud defiance, the ‘subtile engins and malicious slight’ that are harnessed to bring it down seem to allegorise Arthur, implying a covert, perhaps even dishonest, means of conquest (I.viii.2n). As Michael West notes, in the sixteenth and seventeenth centuries, innovations in military engineering and fortification turned war into ‘a series of sieges’, with new military technologies including heavy ordinance increasingly devaluing personal prowess and thereby ‘eroding chivalry’.¹⁹ But it seems strange to lay a charge of unchivalrous machination at Arthur’s feet, who has had to contend not only with Orgoglio’s ‘monstrous maine’, but also with Duessa’s

¹⁹ Michael West, ‘Spenser’s Art of War: Chivalric Allegory, Military Technology, and the Elizabethan Mock-Heroic’, *Renaissance Quarterly*, 41.4 (1988), 654-704 (pp. 654, 680-81). Writing about Book II of *The Faerie Queene*, West notes that ‘Spenser’s description of how Maleger and his troops besiege the castle of Temperance does distill some essential principles of guerrilla warfare from his Irish experiences’. On Spenser’s specific knowledge of siege warfare, cannons, and the uses of heavy ordinance, see pp. 661, 664.

‘magick artes’ and ‘secret poyson’ that she deploys in order to subdue ‘his sturdie corage’, so that ‘all his sences were with suddein dread dismayd’ (I.viii.7.7, 14.2, 4, 8-9). Indeed, if Orgoglio’s power is sustained by Duessa’s ‘charmes and some enchauntments [she] said’, Spenser makes it very clear that Arthur fights on the side of grace when ‘His sparkling blade about his head he blest’ (I.viii.14.6, 22.3). The gesture – and the sword – described here are reminiscent of the cross, a sign of artless courage supported by truth that contrasts with Duessa’s black magic, which depends upon subterfuge and deceit (I.viii.22.3n). I would therefore suggest that here, rather than reflecting on the fight itself, the ‘subtile engins’ invoked to mark Orgoglio’s downfall serve a metapoetic purpose. They remind us that like the Redcrosse knight, who must battle the prideful element of human nature latent within his own character that Orgoglio embodies, we as readers must look beyond the simile and confront another, deeper meaning accessible only through the strenuous work of interpretation.

Orgoglio ‘Is vndermined from the lowest ground’ (I.viii.23.3). As Hannah Crawforth points out, this constitutes a pun on the etymological roots of the word ‘Geaunt’ in the Greek word *geos* for ‘earth’, which suggests that as Redcrosse’s (or George’s) negative other, he carries the seeds of his own destruction within himself (I.vii.8.4).²⁰ The word ‘engine’ prompts us towards a similar insight about the process of allegorical reading that the stanza invites: it suggests that if Arthur defeats the elements of Orgoglio’s character latent in Redcrosse, it is Spenser’s *ingenium* that defeats the Orgoglio in all of us. It does so not only by exposing the mechanism whereby his allegory works, but also by giving us a glimpse of the extent to which our response as readers is manufactured and circumscribed by the poet’s wit. By

²⁰ Hannah Crawforth, *Etymology and the Invention of English in Early Modern Literature* (Cambridge: Cambridge University Press, 2013), pp. 50-51.

focusing our attention on its operations throughout the episode, the two sets of ‘subtile engines’ that frame its narrative illustrate how allegorical wordplay works. At the same time, for Spenser to involve his readers in the production of that wordplay is to make us remember that allegorical images can never be more than representations of a more profound truth – that, ultimately, even Redcrosse’s apotheosis as ‘*Saint George* of mery England’ represents but ‘the signe of victoree’ over ‘*that old Dragon*’ (Satan) and not its substance or final accomplishment (I.x.61.9; I.xi.argument). With Redcrosse and the poet, we must turn ourselves into the makers – in the Sidneian sense of the term – of the world that we want to see become.

Pointing beyond their own conceit, Spenser’s allegorical engines pierce the surface of the text to expose its inner workings. As we have seen, they prompt us to separate the episode’s imagery from the means of its production and thus to learn to judge his allegory not by its emotional impact alone, but by the ingenuity of its extended wordplay. They reveal the extent to which our response as readers depends upon the poet’s wit, without, however, absolving us from the work of interpretation, thereby turning us into cogs in the poet’s allegorical machinery. As Spenser poignantly asks at the beginning of canto vii: ‘What man so wise, what earthly witt so ware, / As to discry the crafty cunning traine, / By which deceit doth maske in visour faire’ (I.vii.1.1-3). Throughout Book I, both Spenser’s heroes and his readers thus face a moral choice between ‘crafty cunning’ and ‘earthly witt’ that the idea of the engine embodies like no other in the period, illustrating how the polysemous meanings of ingenuity may be wrested to the production of allegorical meaning and spiritual truth. As we will discover in what follows, a similar mechanism informs many of *The Faerie Queene*’s most iconic moments.

‘OUERCOME OF THING’: PHAEDRIA’S ‘PAINTED BOTE’ AND THE PLEASURES OF LIKENESS

As we have just seen, in Book I of *The Faerie Queene*, Spenser harnesses the etymological roots of the various ‘subtile engins’ mentioned therein to encode a metapoetic narrative of poetic ingenuity into its moral and theological allegory. In Book II he executes a similar manoeuvre by exploiting the iconic (inter)textual appeal of the technological marvel. Miraculously animated mechanisms or *mirabilia* like the self-opening doors of Mammon’s cave, Artegall’s iron groom, the proto-robot Talus – and particularly the automatic boat that takes Acrasia’s servant Phaedria across the Idle Lake – are singularly well placed to comment upon *The Faerie Queene*’s poetic mechanisms because they represent ‘instances of both literal and literary performance’ that transcend ‘generic expectation to qualify the multiplicity of wonder they inspire’, as Scott Lightsey points out (II.vii.31, 35; V.i.12; II.vi.5).²¹ While in late medieval society and literature, especially in Chaucer, *mirabilia* represented ‘products of noble identity-politics’ that formed part of a ‘developing economy of wonder’ trading in ‘the social prerogatives of chivalric culture’, in Spenser they draw attention to the potentially idolatrous wonder of linguistic artifice – none more so than Phaedria’s self-moving boat and the mechanical fantasy of ‘carelesse ease’, ‘false delights’, and ‘pleasures vayn’ it inspires in Cymochles, as I argue here (II.vi.13.7, 14.2).²²

This brief episode, which anticipates the wider iconoclastic concerns that inform Guyon’s destruction of the Bower of Bliss in canto xii, registers the period’s ‘creative confusion’ not only over the status of images in literary composition, but

²¹ Scott Lightsey, *Manmade Marvels in Medieval Culture and Literature* (New York/Basingstoke: Palgrave Macmillan, 2007), p. 4.

²² *Ibid.*, p. 57.

also over that of *technē* itself.²³ Nick Davis's recent analysis of the Bower sequence contextualises Guyon's intervention as an attempt 'to recover conditions for the exercise of *phronesis* [practical wisdom], under circumstances where *techne* has removed them by exalting the aims of self-fulfilment through a technically enabled hedonism'. He reads the Bower's inhabitants as 'a mingling of pseudo-animate and animate figures' that have 'become automated by its highly managed routine of pleasures'.²⁴ These include the 'hideous host' of 'Sea monsters' that threatens Guyon and the Palmer's crossing, Genius, the porter who greets their arrival, the Bower's central fountain of 'Two naked Damzelles', and the conspicuously well-tempered 'harmonie' of 'Birdes, voices, instruments, windes, [and] waters' that 'mote delight a daintie eare' (II.xii.22.8-9; 63.6; 70.9, 2). All of these, he suggests, act as 'a prosopopoeia for the *techne* which deludes visitors to the garden through its attractively hedonistic re-creation of natural process', their eventual destruction encapsulating an argument for ethical choice as 'wise action, not reproducible schema'.²⁵ Here, I want to argue that if Guyon's destruction of the Bower 'enforces a categorical separation of *physis* [nature] and *techne*', the Phaedria episode earlier in Book II enables a corresponding separation of poetic ingenuity and allegorical iconicity.²⁶ As we will see, the self-reflexive imagery of its central wonder-working marvel – Phaedria's automatic boat – 'defaces the text to expose the wires' of what Ernest Gilman has called Spenser's 'conspicuous machinery of authorship'. This allows the allegorist to '[confront] and (in both the moral and the authorial sense)

²³ Ernest B. Gilman, *Iconoclasm and Poetry in the English Reformation: Down Went Dagon* (Chicago/London: The University of Chicago Press, 1986), p. 46.

²⁴ Nick Davis, 'Desire, Nature, and Automata in the Bower of Bliss', in *The Automaton in English Renaissance Literature*, ed. by Wendy Beth Hyman (Farnham/Burlington, VT: Ashgate, 2011), pp. 163-79 (pp. 179, 177).

²⁵ *Ibid.*, pp. 174-76, 178.

²⁶ *Ibid.*, p. 172.

[correct] the iconic power of his own language' and thus to prepare his readers for the greater challenge of the Bower.²⁷

Throughout his description of Phaedria's boat Spenser borrows heavily from the clichés of medieval romance literature. Variouslly identified as 'A litle Gondelay, bedecked trim / With boughs and arbours wouen cunningly, / That like a litle forrest seemed outwardly', a 'little barke', and 'her painted bote', it has no need of 'oare or Pilot it to guide, / Or winged canuas with the wind to fly', but moves solely by the turn of a 'pin' like an automaton (II.vi.2.7-9; 4.3, 6; 5.3-5). As A. C. Hamilton notes, this 'pin' evokes a number of textual precedents in Homer, Ariosto, Tasso, and, more pertinent to my argument, in Chaucer's *Squire's Tale*, where a similar device is responsible for animating the fantastic flying 'stede of brasse' that the tale's 'straunge knight' gifts to King Cambyscan on the occasion of his birthday (II.vi.5.5n).²⁸ In the *Tale*, this fantastical mechanical horse, which likewise works upon 'the writhing of a pyn', inspires a number of 'Rehersynge[s] of the olde poetryes' by Cambyscan's courtiers, who identify it first as the winged horse Pegasus, then as 'the Grekes horse Synon / That brought Troye to distraccion'.²⁹ As Craig Berry remarks, it not only evokes the Homeric myth and its literary achievement, but the pun on the double meanings of 'distraccion' (distraction and destruction) also positions *The Squire's Tale's* mechanical marvel as 'an internal commentary on the power and danger of fiction'. By bringing Homer's account of Synon's 'rhetorical subterfuge', which prompts the Trojans to admit the horse into their city, to bear upon his own tale, where it elicits a similar kind of wonder,

²⁷ Gilman, pp. 71, 83.

²⁸ *The Workes of Geffray Chaucer newly printed, wyth dyuers workes whych were neuer in print before* (London, 1542), fol. xxvii; STC 5069.

²⁹ Ibid.

Chaucer effectively turns it into ‘a figure for [his] poetry’.³⁰ Throughout, the mechanical horse acts as a textual device for thinking both with and about the production of literary fictions.

Destruction and distraction play central roles in the moral allegory of Book II of *The Faerie Queene*. However, in the case of Phaedria’s boat it is a different kind of ambiguity that governs the textual machinery of wonder and deceit the episode imports from the romance tradition. As I want to argue here, the boat’s automatic mechanism offers a vision of literary production that denies the possibility especially of readerly agency, ‘For it was taught the way, which she would haue’ (II.vi.5.8). As a literary automaton of sorts, it inscribes a suggestive tension between a legitimate vision of pictorial language subject to authorial control, and the excess of ‘sensuall delight’ afforded by Phaedria’s undisciplined and ‘fantasticke wit’, which, like her boat, tends ‘away [to] slide, / More swift, then swallow sheres the liquid skye’ (II.vi.5.5; 8.7; 7.2; 5.1-2). As such, it blurs the boundaries between legitimate likenesses of things and the fatal ‘liking [...] to gaze on earthly mould’ denounced earlier in the poem, with particular implications for the epic’s general anxieties about allegorical image-making (I.vii.22.4). *Imitatio* in the Sidneian sense of the term implies an act of literary feigning that points towards a deeper meaning and seeks to teach a more profound truth. Phaedria’s ‘merry tales to faine’, by contrast, with which she entertains Cymochles during their crossing of the Idle Lake, never rise above triviality and gaudiness (II.vi.6.4). They ally her ‘painted bote’ with the ‘painted forgery’ of idolatrous image-making that Spenser disavows in the proem to Book II (II.Proem.1.4). As Lightsey explains, *mirabilia* ‘reorganize the relationship of person to thing’ by encouraging what he calls ‘immanence of experiential

³⁰ Craig A. Berry, ‘Flying Sources: Classical Authority in Chaucer’s “Squire’s Tale”’, *ELH*, 68.2 (2001), 287-313 (pp. 305, 297-98, 302-3).

relation': coming to sudden life, the animated mechanism transforms the viewer's or reader's 'fixed perspective' into 'a participatory role', enforcing an illicit relationship with the image it forms part of.³¹

However, at the same time that it functions as an engine of deceit, Phaedria's boat also offers an ingenious remedy for the literary fraud it seems designed to perpetrate on her victims. As in Book I, the (metaphorical) devil is in the small details of Spenser's description. Here, it is the pin whereby her boat moves that reminds us of the poet's role in devising the image in the first place. As I want to suggest, it constitutes a pun on the word 'pen', acting as a synecdoche for Spenser's authorship. It was the 'authoritie' of that pen that early modern English writers sought to reassert in the face of both intellectual and theological prejudice against the 'fayning [of] notable images'.³² This is precisely what Spenser sets out to accomplish in this episode, the boat's 'pin' evoking the authority of his pen in two important ways. Not only does it remind us of the Chaucerian context and, by implication, of Spenser's own learnedness, his pen following – and surpassing, perhaps – that of his predecessor. But it also serves to illustrate that even though Phaedria's boat seems to negate the possibility of agency, the range of its 'wonted course' is circumscribed by the allegorist's wit (II.vi.20.6). A literal, allegorical, and metapoetic vehicle for generating and simultaneously commenting upon the 'vaine toyes' with which Phaedria 'sweetly charmd' her victims, the boat's automatic mechanism accentuates the distracting qualities of the episode's marvellous imagery while discreetly drawing attention to the poet's role in creating it (II.vi.7.1, 14.9). Like the brass horse in *The Squire's Tale*, the image of the self-moving boat thus provides internal

³¹ Lightsey, pp. 24-25.

³² Sidney, sigs E2^v, C4^r. Spenser puns on the word 'pen' elsewhere in *The Faerie Queene*. See Richard Rambuss, *Spenser's Secret Career* (Cambridge: Cambridge University Press, 1993), pp. 73, 142n.

commentary on the rhetorical subterfuge that Phaedria employs throughout this book, encouraging us to maintain critical distance.

Meanwhile, Spenser's portrayal of Phaedria's island, where Cymochles finds himself quite 'ouercome of thing, that did him please', extends the issues raised by her automatic boat (II.vi.13.8). If the latter reflects on the mechanisms involved in the production of (fraudulent) literary fictions, the former seeks to establish the reason for their overwhelming sense of 'allure', especially insofar as it reflects upon poetry as 'a speaking picture: with this end, to teach and delight' (II.vi.13.6).³³ There are several reasons to think about the island as a continuation of the mechanical artifice that drives Phaedria's 'bedecked' and 'painted' boat (II.vi.2.7, 4.6). In fact, I want to suggest that, like the Bower of Bliss, it represents an illicit fantasy of pure *technē*, a speaking picture that has the power to delight, but fails to teach anything beyond the trivialities of 'foolish humour, and vaine iolliment' (II.vi.3.9). The clearest indication of this is in the language Spenser employs to describe its many charms:

No tree, whose braunches did not brauely spring;
No braunch, whereon a fine bird did not sitt:
No bird, but did her shrill notes sweetely sing;
No song but did containe a louely ditt:
Trees, braunches, birds, and songs were framed fitt,
For to allure fraile mind to carelesse ease.³⁴

The predominant impression one is likely to take away from these lines is one of visual excess. As the extended sequence of anaphoric repetitions makes clear, there is 'No tree', 'No braunch', 'No bird', 'No song' that has not 'bene choycely picked out from all the rest' (II.vii.12.4). It implies that nothing on this island has been left to chance (or nature), even to the point of parody; everything is too perfect, too brave, too sweet, and too lovely. Indeed, throughout the arrangement of the lines and

³³ Sidney, sig. C2^v.

³⁴ II.vi.13.1-6.

images is such as to generate the impression of a self-propelling (rhetorical) mechanism that follows some elusive internal logic, like Phaedria's boat 'obaying to her mind' alone (II.vi.20.3). It seems that, just because there are trees on the island, these must have branches that 'brauely spring', which in turn attract 'fine bird[s]'. And because the birds are fine, their 'shrill notes' must 'containe a louely ditt', evoking a kind of quasi-mechanistic determinism in which every event or image is necessitated and actuated by a prior event or image. The result is a speaking – and singing – picture that delights to the point of sensual overload, causing Cymochles to be 'ouercome of thing', and to relinquish 'vow'd reuenge, and cruell fight' for the 'wondrous great contentment' that this vision of artfully imitated nature offers instead (II.vi.13.8; 8.4, 2). Sensual pleasure takes precedence over the moral and familial duty of avenging himself on Guyon for 'dismay[ing]' his brother Pyrrhochles (II.v.38.7).

Like Phaedria's boat, then, in which she passes the time by 'Making sweete solace to her selfe alone', this beautifully contrived anaphoric stanza evokes a literary automaton of sorts, which, in constantly referring back to itself, subsumes all meaning, tempting Cymochles – and Spenser's readers – to relinquish 'the fruitlesse toile' of interpretation (II.vii.3.2; 17.9).³⁵ Together, the rhetorical device of anaphora and the imagery it sustains conspire to 'allure [Cymochles's] fraile mind to carelesse ease', and to tempt us to suspend critical judgement. As Spenser carefully points out, they are 'framed fitt' to that effect. The verb 'to frame' implies an artful intervention in, or even imitation of, nature, akin to poetic imitation. It paints a picture of fiction

³⁵ Hamilton notes that several of Spenser's contemporaries seem to have done just that, treating the stanza as a consummate example of poetic skill, II.vi.13n. Both the literary compiler and editor Robert Allot (*fl.* 1599-1600) and the poet and translator Thomas Watson (1555/6-1592) include stanza II.vi.13 in their own poetic collections. Robert Allot, *Englands Parnassus: Or The choycest Flowers of our Moderne Poets, with their Poeticall Comparisons* (London, 1600), p. 475; STC 379. He files the stanza under the heading 'Descriptions of Pallaces, Castles, &c', p. 465ff. Watson incorporates parts of II.vi.13 into his Sonnet 51, without acknowledging Spenser's authorship, as Allot does. Thomas Watson, *The Tears of Fancie. Or, Loue Disdained* (London, 1593), sig. D3^v; STC 25122.

as little more than ‘a scoffing game’, a self-sustaining mechanism that has no need of or indeed use for authorial and readerly agency, belying the ethical and didactic purposes both Sidney and Spenser claimed for their art (II.vi.6.9). Ultimately, then, it is precisely because they negate both the illusion of authorial control and the power of readerly interpretation that Phaedria’s self-propelling boat and the mechanically self-perpetuating perfections of her island seem particularly disturbing.

At the same time, however, even if the delights of the island and Phaedria’s own seductive words convince Cymochles to ‘refuse [...] fruitlesse toile’ for ‘present pleasures’, it is the very artifice of Spenser’s language here that ultimately draws attention to the illicit nature of these pleasures, exposing her argument for idleness as a form of intemperance (II.vi.17.9, 15-17n). As in the Orgoglio episode, it requires an appeal to simile to restore critical distance: thus, the ‘chosen plott of fertile land’ appears ‘*As if it had by Natures cunning hand, / Bene choycely picked out from all the rest*’ (II.vi.12.1, 3-4, my emphasis). This qualification, which is almost drowned out by the visual excess of Spenser’s imagery, qualifies the stanza’s seductive visual and rhetorical charms. First, it draws attention to Phaedria’s role in maintaining the illusion by exposing her appeal to ‘Natures cunning hand’ as a mockery thereof. At II.vi.15-17 she invokes the Sermon on the Mount in order to convince Cymochles of the scripturally authorised virtues of idleness. Her ‘charmd’ song juxtaposes man’s ‘toilesome paines’ with the ‘lilly’ and the ‘flowre deluce’, which by natural decree ‘nether spinnes nor cards, ne cares nor fretts’ (II.vi.14.9, 15.1, 16.1-2, 8). Of course, her appeal to nature’s flowers that ‘them selues doe thine ensamples make’ is given the lie by the conspicuous artifice of her own garden of earthly delights (II.vi.15.3). As the simile informs us, it only pretends to the authority of natural law. More importantly, it draws attention to another ‘cunning hand’ involved in the creation of

the island's charms, and that hand is Spenser's own. Earlier, I argued that the magical pin animating Phaedria's boat acts as a metaphor for the allegorist's pen – and, as such, for authorial agency. The 'cunning hand' invoked here likewise points beyond its own conceit to emphasise Spenser's ingenuity in creating an image that simultaneously represents and reflects on itself.

Throughout the episode, there is considerable pleasure in likeness, a pleasure Cymochles finds hard to resist, as multiple references to the words 'pleasaunce', 'pleasaunt' and their cognates throughout the tale indicate (II.vi.6.3, 9; 8.9; 11.9; 13.8; 14.2; 15.2). However, while the narrative seems to privilege the idea of pleasure in things, its mechanical imagery draws attention to the literary mechanisms involved in the creation of that pleasure. Tempering the seductive visual appeal of Phaedria's 'painted bote' and her artificial island, the extended wordplay of this canto thus authorises a divergent critical narrative that thinks both with and about the processes of allegorical image-making.³⁶ It has been suggested that as embodied images *mirabilia* 'convey the regulating mechanisms of chivalric *temperantia*' at work in the body of romance literature.³⁷ As I have shown, a similar dynamic is at work in Book II of *The Faerie Queene*, where Phaedria's automatic boat and the conspicuously mechanistic artifice of her island expose 'the whirling gears' of Spenserian allegory as they work against the overwhelming and illicit charms of 'false delights' and 'pleasures vayn' (II.vi.14.2).³⁸

'WILLY NOT WITH MALE ENGINE, BUT WITTILY': TRANSFORMING ALLEGORY WITH MALENGIN

³⁶ Sylvia Adamson, Gavin Alexander, and Katrin Ettenhuber, 'Introduction: The Figures in Renaissance Theory and Practice', in *Renaissance Figures of Speech*, ed. by Sylvia Adamson, Gavin Alexander, and Katrin Ettenhuber (Cambridge: Cambridge University Press, 2007), pp. 1-14 (p. 9).

³⁷ Lightsey, p. 26.

³⁸ Ibid.

In the previous two sections we saw military engines and miraculously self-propelled automata overcome the forces of pride and (interpretive) idleness. A more topical engagement with the literary and theological implications of creating a distinctly Protestant allegory occurs in Book V, canto ix. Here, Spenser invokes its negative other in the shape of Malengin, the terrifying embodiment of Guile whose evil machinations not only register the poet's anxieties about the transformative potential of allegorical language, but also permit him to place the genre within a recuperative narrative of poetic decorum.³⁹ As already mentioned, Spenser's 'Letter to Raleigh' testifies to a latent fear of '*gealous opinions and misconstructions*' prejudicing that which the poem 'enfold[s] / In couert vele and wrap[s] in shadowes light', a fear partially justified by the 'mighty Peres displeasure' that Spenser alludes to at the end of Book VI (LR 714.5; II.Proem.5.1-2; VI.xii.41.4). Hoping to deflect '*the daunger of enuy, and suspition of present time*' that '*good discipline [...] clowdily enwrapped in Allegorical deuises*' might elicit, Spenser justifies his projected '*pourtraict*' and '*image*' of the twelve moral virtues by appeal to '*the vse of these dayes*', which prefers what is '*delightfull and pleasing to commune sence*' to that which is '*deliuered plainly in way of precepts*', as he claims (LR 715.12; 716.22-23; 715.18-19; 716.24-25). However, if allegory seems the only '*Methode*' fit for a world that is 'corrupted sore' with loss 'Of vertue and of ciuill vses lore', Spenser's apologetic remarks in the Letter also betray a fundamental ambivalence towards the genre that informs much of *The Faerie Queene*'s preoccupation with, and internal commentary upon, its own techniques, as I have argued throughout (LR 716.22; V.Proem.3.2, 4).

³⁹ VI.xii.41n. On the ecclesiastical reform movement led by Matthew Parker and his circle of textual scholars, and their influence on Spenser, see Benedict Scott Robinson, "'Darke Speech': Matthew Parker and the Reforming of History", *The Sixteenth Century Journal*, 29.4 (1998), 1061-83 (pp. 1063-64); and Crawford, pp. 8-9, ch 1.

In the first three books of the epic, Archimago and the various ‘faytor[s] false’ who emulate his fraudulent *technē* are clearly recognisable as figures of spiritual hypocrisy and parodic incarnations of the Spenserian poet.⁴⁰ But throughout Book V the line between permissible forms of ‘practick witt’ and outright deception, often associated with the agents of Antichrist, hangs ‘in doubtfull ballaunce’ (I.xii.35.5; II.i.3.6, 8). Associated with Irish rebelliousness and with Catholic subterfuge – and with a corresponding lack of social and spiritual decorum – Malengin represents the quintessential incarnation and agent of related forms of cultural, linguistic and spiritual corruption. As I shall demonstrate here, by giving the ‘wily wit’ that he allegorises an external form, Spenser evokes and ultimately exorcises the transformative poetics of an allegorical mode loosely allied both with Irish otherness and especially with the transformative magic of contemporary Catholic poetry (V.ix.5.1). Here as elsewhere throughout *The Faerie Queene*, mechanical imagery pertaining to linguistic artifice, guile, and deceit mediates the idolatrous potential of a poetic ‘*Methode*’ running the perpetual danger of losing control over the various politically and theologically vexed ‘*by-accidents therein occasioned*’ (LR 714.7).

Artegall and Arthur’s confrontation with Malengin has been interpreted both as an allegory of Irish rebellion, and of the perceived threat of Roman Catholic missionary activity in England and Ireland, as Elizabeth Heale has persuasively argued. In her view, his labyrinthine underground cave and wily transformations figure Jesuitic ‘equivocation and verbal sophistry’.⁴¹ Following Jane Aptekar, A. C. Hamilton likewise identifies Malengin by his net and ‘yron hooke’ as a version of Cesare Ripa’s emblem of *Inganno*, representing ‘the false fisher of men’ in

⁴⁰ King, pp. 75-76.

⁴¹ Elizabeth Heale, ‘Spenser’s Malengine, Missionary Priests, and the Means of Justice’, *The Review of English Studies*, 41.162 (1990), 171-84 (pp. 171-72, 177, 179).

Habakkuk 1.14-15 who, unlike Saint Peter, ‘vsd to fish for fooles on the dry shore’ (V.ix.11.2, 8, 11n).⁴² As a representation of the archetypal Irish *kern* or foot soldier, Malengin has also been read as another of the poem’s many emblems of ‘the slipperiness of the Irish, which may be likened to the resistance of matter to the imprint of form’.⁴³ Both of these critical traditions will inform my own argument. But as I want to emphasise in this part of my chapter, the miscreant’s ‘wylie wit’, which ‘so crafty was to forge and face, / [...] So smooth of tongue, and subtile in his tale, / That could deceiue one looking in his face’, also lends poignant form to the Letter’s latent anxiety about the uncontrollable accidents of allegorical meaning that ‘runne away incontinent’ if left to their own devices, as indeed Malengin tries to on several occasions (V.ix.5.1, 4-7; 18.7). As we will discover below, his violent execution by Artegall’s iron groom, Talus, serves as a particularly violent authorial intervention on Spenser’s part, which seeks to fix the chaotic allegorical world of Book V by appeal to the rules of poetic decorum.

As mentioned earlier, the word ‘engine’ that forms part of his name invites associations with poetic ingenuity or *ingenium*. In the Malengin episode, it represents its negative other in the form of *inganno* or deceit, serving to highlight and critique the ambivalent meanings of allegory at a time when literary production was (partially) circumscribed by political and religious ideology.⁴⁴ Later on in this

⁴² Jane Aptekar, *Icons of Justice: Iconography & Thematic Imagery in Book V of The Faerie Queene* (New York/London: Columbia University Press, 1969), pp. 129-31. For a summary of literary precedents and sources for Spenser’s Malengin, see Harold Skulsky, ‘Malengin’, in *The Spenser Encyclopedia*, ed. by Albert C. Hamilton (Toronto/Buffalo/London: University of Toronto Press, 1990), p. 450. Hereafter abbreviated to *SEnc*. On ‘engine’ as ‘A device for catching game or fish, as a net, trap, or decoy’, see *OED Online*, ‘engine, n’, 4c.

⁴³ Gordon Teskey, *Allegory and Violence* (Ithaca/London: Cornell University Press, 1996), p. 175; quoted in Palmer, p. 78.

⁴⁴ Spenser’s startling image of the bad poet Malfont’s crucified tongue illustrates the consequences of provoking the authorities of Mercilla’s (or Elizabeth’s) court. Once like ‘*Dan Chaucer*’ a ‘well of English vndefyled’, the disgraced ‘BON FONT’ now represents his own antithesis, ‘a welhed / Of euill words, and wicked sclaunders by him shed’, the complete reversal of his fortunes reflecting something of Spenser’s own misgivings about the politically sensitive subject matter that he treats in canto ix (IV.ii.32.8; V.ix.26.4, 8-9; 25-26n). Cf. David Lee Miller, ‘The Earl of Cork’s Lute’, in

chapter, we will discover how Spenser tips the (literal and metaphorical) balance between *ingenium* and *inganno* that every allegorist has to negotiate in favour of the former. Here, I would suggest that both Malengin's own Protean qualities as well as the deep 'wyndings' and 'hidden ways' of his cave act as negative figures for what Puttenham calls allegory's inherent 'duplicite of meaning or dissimulation vnder couert and darke intendments' (V.ix.6.6-7).⁴⁵ As such, they embody the 'the slippery tensions between literalness and metaphor' that allow the allegorist to 'scrutinize language's own problematic polysemy', as Maureen Quilligan writes, and thereby serve to guard against misunderstandings.⁴⁶

Both Malengin and his 'dwelling place' actively refuse to be read or penetrated: as Samient explains to Artegall and Arthur, they are 'vnassaylable' (V.ix.2-3). Unlike Mammon's painstakingly mapped cave at II.vii.28, through which we as readers must follow Guyon if we are to defeat the worldly temptations it represents, this underground smithy of false conceits merits no description and can offer no instructive lessons, standing as a monument to its own conceit. Thus, if in Book II the cavernous recesses of Mammon's cave represent the depths of allegorical meaning that Spenser intends his hero and his readers to probe, here we remain firmly on the literal and metaphorical surface of language, with Arthur 'ke[eping] the entrance still' (V.ix.15.2). As a consequence, we are forced to recognise with Quilligan that in allegory, meaning 'accretes serially, interconnecting and criss-crossing the verbal surface', and in doing so, involves us in the precarious processes

Spenser's Life and the Subject of Biography, ed. by Judith H. Anderson, Donald Cheney, and David A. Richardson (Amherst: The University of Massachusetts Press, 1996), pp. 146-71 (p. 168). Miller writes: 'The devious economy of naming evoked in these lines calls for strategies of decipherment that will let us discover the element of critique encoded in what look like strains on the allegorical system'.

⁴⁵ Puttenham, p. 128.

⁴⁶ Quilligan, *The Language of Allegory*, p. 64.

of its creation.⁴⁷ Malengin's serially interconnecting metamorphoses into fox, bush, bird, stone, and hedgehog underscore this point: as Hamilton notes, they follow 'nursery-rhyme logic', the beating of the bush by Talus prompting Malengin's transformation into a bird, the throwing of stones his transformation into one, the stone growing a hedgehog's spikes (V.ix.17-19n). As such, he represents the materially incontinent, subversive, even prickly nature of figurative language. Engaging in a rabid and particularly material kind of punning wordplay, he seeks to evade not only Talus and Artegall's 'hand it gryping hard', but also our interpretive grasp, focalising attention on his outward form rather than on the evil that that form conceals (V.ix.18.4). As Quilligan succinctly observes, 'The heroes may be battling monsters and the reader the rules of grammar, but the ethical issues are comparable'.⁴⁸

Extant since the middle ages, in late sixteenth-century literature the word 'malengine' carries a number of connotations relating to various concepts of '*fraud, craft, subtilty, deceit, trecherie*', avarice, and 'grosse negligence', especially in ecclesiastical contexts.⁴⁹ But it also sustains an important relationship between linguistic verisimilitude and moral truth, as the English translator of Cornelius Valerius's (1512-1578) moral philosophy observes in an item entitled 'Of Trouth':

A forged deuise is mischeuous and pernicious vnto the common wealth for it wresteth a man from God which is true, and the welspryng of al verity, [...]. Clokyng also is vnseemely for an honest man, who speaketh no otherwise then he thinketh: he doth not commend him in presence, whom he disprayseth

⁴⁷ Ibid., p. 28.

⁴⁸ Maureen Quilligan, 'reader in *The Faerie Queene*', *SEnc*, pp. 585-87 (p. 586).

⁴⁹ *OED Online*, 'malengine, n'. L[lucas] H[arrison], *A Dictionarie French and English* (London, 1571), 'Malengin' (there is no pagination); STC 6832. Richard Cosin, *An ansver to the two first and principall treatises of a certaine factious libel, put forth latelie, [...] vnder the title of An abstract of certaine acts of Parlement: of certaine hir Maesties inuitions: of certaine canons, &c. Published by authoritie* (London, 1584), p. 109; STC 5819.7. Edward Hake, *Newes out of Powles Churchyarde* (London, 1579), sig. A3^r; STC 12606.

in absence: he counterfainteth and worketh wilily not with male ingine, but wittily, if neede should enforce.⁵⁰

Like the allegorist or the allegorical reader, who imputes the kind of linguistic ‘Clokyng’ Valerius disallows to the poet, Malengin speaks ‘otherwise then he thinketh’. His transformations inscribe a similar difference between wile or ‘male ingine’ and genuine wit that informs and authorises Spenser’s allegory throughout *The Faerie Queene*. As Puttenham is at pains to stress, ‘heresies of language’ like the other-speaking involved in allegory are ‘not in truth to be accompted vices but for vertues in the poetical science’, the difference between ‘efficacy of speach’ and ‘viciositee in speach’ being one of poetic ‘*decorum*’: thus, ‘in keeping measure, and not exceeding nor shewing any defect in the vse of his figures, [the poet] cannot lightly do amisse’.⁵¹

Measure is of course precisely what Malengin lacks, as both the eclectic variety of his ‘pleasant trickes’, ‘slights and iugling feates’ with which he seeks to ensnare Samient, as well as his various transformations indicate (V.ix.13.6-8). In Book I, it is lack of measure, or poetic excess, that identifies Duessa’s fraudulent letter to Una’s father as what Valerius terms a ‘forged deuise’, the hypermetric signature ‘*Fidessa*’ signalling a lack of poetic decorum that ultimately convicts its author of ‘viciositee’ rather than ‘efficacy of speach’ (I.xii.28.10; 26-28n).⁵² Like Malengin’s transformations, whereby he takes leave of ‘his proper forme’, Duessa’s false signature runs incontinently across the allotted space on the page, disrupting the stanza’s rhyme scheme and marring its form (V.ix.16.9). A monument to the vanity

⁵⁰ *The Casket of Iewels: Contaynyng a playne description of Morall Philophie [sic], diligently and after a very easie Methode declared by the well learned and famous Author Cornelius Valerius: Lately turned out of Latin into Englishe, by I. C.* (London, 1571), sigs G^v-G^{2r}; STC 24583.

⁵¹ Puttenham, p. 129.

⁵² Cf. VI.xii.28-29: the Blatant Beast, opening wide its iron-clad jaws ‘of *Orcus* grisly grim’ to ‘spake licentious words, and hatefull things / Of good and bad alike, of low and hie’, constitutes another image of indiscriminate malengine that thrives on a similar kind of negatively inscribed poetic excess (VI.xii.26.9, 28.5-6). Like Malengin’s transformations, its rabid acts of ‘rend[ing] without regard of person or time’ lack (poetic) decorum (V.xii.40.9).

of error, it reveals ‘these sad lines’ to be not merely ‘letters vaine’ and empty of meaning, but letters that carry evil intent (I.xii.26.2, 34.2).

Sidney’s reflections on poetic excess in the *Apologie* are especially relevant to the idea of poetic decorum in the Malengin episode. He writes:

Now for similitudes, in certaine printed discourses, I thinke all Herbarists, all stories of Beasts, Foules, and Fishes, are rifled vp, that they come in multitudes, to waite vpon any of our conceits; which certainly is as absurd a surfet to the eares, as is possible: for the force of a similitude, not being to prooue any thing to a contrary Disputer, but onely to explaine to a willing hearer, when that is done, the rest is a most tedious pratling.⁵³

Evoking the poetic bestiary that Sidney disclaims here, Malengin’s furious barrage of transformations from beast (fox) into bird into fish (or in his case, serpent) seem to recall and emblematised acts of ‘tedious pratling’ that lack moderation, defy comprehension, and, in doing so, subvert the very purpose of poetry, which is eloquence.⁵⁴ As Spenser notes, ‘So did the villaine to her [Samient] prate and play, / [...] To turne her eyes from his intent away’ (V.ix.13.5, 7). Poetic decorum presupposes a measure of authorial control that the inherent polysemy of allegory complicates, as Spenser admits in the ‘Letter to Raleigh’. Not unlike Phaedria’s boat, Malengin behaves like a (literary) automaton. His transformations are as unexpected as they are beyond Artégall’s or Arthur’s power to contain, ‘leaping from hill to hill, / And dauncing on the craggy cliffes *at will*’ (V.ix.15.4-5, my emphasis). They follow their own self-serving logic, reducing the interpretive wordplay of allegory to what Gordon Teskey calls ‘a procedure of mechanical decoding’ in which stable meaning is always just beyond our grasp as the game perpetuates itself to infinity.⁵⁵ This reflects negatively not only on the allegorist, but also on the very possibility of readerly interpretation. In other words, the mechanical aspects of Malengin’s

⁵³ Sidney, sig. K4^v.

⁵⁴ Heale suggests that the animal imagery especially of fox and serpent associates Malengin with depictions of Jesuit missionaries in contemporary Protestant invective, p. 179.

⁵⁵ Gordon Teskey, ‘allegory’, *SEnc*, pp. 16-22 (p. 21).

character subvert poetic decorum by generating what Sidney calls an ‘absurd [...] surfet to the eares’; he turns excess into the engine – and end – of poetry.

Malengin’s association with Irish slipperiness and especially with the snares of clandestine Jesuitic preaching can shed further light on the issue of poetic decorum in this episode. As Richard McCabe points out, according to Spenser’s *A View of the Present State of Ireland* (1596), ‘one of the virtues allegedly lacking in Gaelic society was temperance’, a lack that showed most prominently in a corresponding lack of civility (or social decorum).⁵⁶ Thus, Malengin carries the ‘long curld locks, that downe his shoulders shagged’ and generally run-down appearance of the quintessential Irish rebel (V.ix.10.6, 6-9n).⁵⁷ Read against this historical background, his metamorphoses can be seen to emblematisé Spenser’s view of ‘the Irish language as the principal medium of cultural corruption’, the lack of linguistic and social graces mutually sustaining and revealing each other.⁵⁸ As Andrew Hadfield puts it, Malengin challenges ‘the poetic order of allegory, and the political order which that allegory strives to represent’.⁵⁹

His ‘vncouth vestiment / Made of straunge stuffe’, meanwhile, evokes the ecclesiastical vestments of the (Catholic) clergy, the ‘straunge’ fascination of his clothes perhaps intended as a reflection upon the strange and transformative power thought to inhere in the words of the Catholic mass (V.ix.10.7).⁶⁰ Alison Shell has influentially argued that despite his staunch Protestantism, Spenser engaged with Catholic poetics throughout his literary career, especially with the works of the Jesuit missionary and poet Robert Southwell (1561-1595), which she maintains ‘elicited an

⁵⁶ Richard McCabe, ‘Ireland: Policy, Poetics, and Parody’, in *The Cambridge Companion to Spenser*, ed. by Andrew Hadfield (Cambridge: Cambridge University Press, 2001), pp. 60-78 (pp. 64, 66).

⁵⁷ See also Hadfield, pp. 161-62.

⁵⁸ McCabe, ‘Ireland’, p. 66. Cf. Hadfield, pp. 37-38.

⁵⁹ *Ibid.*, p. 162.

⁶⁰ *OED Online*, ‘vestiment, n’, 1: ‘A vestment, esp. one worn by an ecclesiastic’.

agonistic reaction' that is also traceable in *The Faerie Queene*.⁶¹ Indeed, a possible allusion to Southwell's execution at Tyburn one year prior to the publication of the 1596 version of the poem has been postulated in relation to the gruesome execution inflicted upon Malengin by Talus, of which more shortly.⁶² In the absence of specific textual evidence I would not wish to over-emphasise the importance of Southwell to Spenser's depiction of Malengin. But his animal transformations do embody a belief in the transformative potential of language that is common especially to pre-Reformation allegories. As Quilligan explains, they are marked by a 'suprarealist attitude toward language', whose 'physical power' was thought to '[operate] by a sympathetic magic of names, whereby to name is somehow to know, and to know the name is to be able to control the force'.⁶³ As an extension of the 'incarnation of the Logos' that also underwrites the Catholic sacraments, especially the doctrine of transubstantiation, that 'magic of names' proved suspect to the reformed theology's insistence on a strict division of names and things.

Malengin calls that division into doubt. His name and the thing that it represents are one and the same throughout, just as the various shapes he assumes represent mere enactments of the polysemous meanings that the word 'malengine' gives rise to. An uncomfortable reminder of the potentially misleading thingness of the unreformed word, his 'magic of names' represents a relic of the rhetorical mechanisms associated with the 'magic phenomenality' not only of the Catholic mass, but of Catholic modes of writing more generally.⁶⁴ As Anne Sweeney reminds

⁶¹ Alison Shell, *Catholicism, Controversy and the English Literary Imagination, 1558-1660* (Cambridge: Cambridge University Press, 1999), p. 72.

⁶² Jennifer R. Rust, 'Malengin and Mercilla, Southwell and Spenser: The Poetics of Tears and the Politics of Martyrdom in *The Faerie Queene*, Book 5, Canto 9', in *Redrawing the Map of Early Modern English Catholicism*, ed. by Lowell Gallagher (Toronto/Buffalo/London: University of Toronto Press, 2012), pp. 185-210 (pp. 185-87).

⁶³ Quilligan, *The Language of Allegory*, pp. 157, 163.

⁶⁴ Ibid., pp. 156, 166-67. 'Male-engine' features as a figure of Catholic hypocrisy and the antithesis of 'all sound diuinitie' in William Barlow's *A Defence of the Articles of the Protestants Religion*, in

us, Southwell's poetry had the 'immediate pastoral intention' of providing spiritual guidance to his scattered congregation, which, as 'a priest without a pulpit', he could not offer in person.⁶⁵ To turn his poetry into a substitution – and performance – of his own presence was to transform the written word into an allegory of the miraculous transformation of bread and wine that took place during the Eucharist. Here, the poetic text performs the ministering function of the priest.

This, of course, is not at all what Sidney has in mind when he calls his poet a 'Vates' or 'Diuiner, Fore-seer, or Prophet'.⁶⁶ It is hardly surprising, therefore, that Spenser resorts to a particularly violent act of image-breaking in order to put a symbolic stop to Malengin's own proliferating incarnations. The fact that this feat is accomplished by Talus – rather than by Artegall himself – is significant. Unlike the ontologically indeterminate Malengin, Talus is of 'yron mould' as well as 'Immoueable, resistlesse, without end' (V.i.12.6-7). The first represents the incontinent polysemy of allegorical figuration, as I have shown. Talus, I want to argue here, represents the monolithic oneness – and apparent moral certainty – of the Spenserian allegorist, who is in the process of forging a new literary identity from England's on-going struggles with the spiritual and socio-political kinds of indecorousness represented by Catholicism and Irish insurrection.

Traditionally, the iron man has been interpreted as 'a fearsome counterpart to Artegall', representing the allegorical separation of abstract justice and executive power that serves to distance the hero of Book V from the morally dubious and often

answeare to a libell lately cast abroad, intituled Certaine Articles, or forcible reasons, discouering the palpable absurdities, and most intricate errorrs of the Protestantes Religion (London, 1601), p. 59; STC 1449.

⁶⁵ Anne Sweeney, 'Introduction', in *St Robert Southwell, SJ: Collected Poems*, ed. by Peter Davidson and Anne Sweeney (Manchester: Carcanet, 2007), pp. xi-xx (p. xiii).

⁶⁶ Sidney, sig. B4^f.

excessive violence of Talus's various punitive campaigns.⁶⁷ As Palmer notes, 'this uncoupling of policy from execution, of the cerebral from the physical, gives Artegall "deniability"'. The intention is clear: to vindicate Sir Arthur Grey, the disgraced former Lord Deputy to whose patronage Spenser owed his career in Ireland, and whom Artegall is generally believed to allegorise.⁶⁸ Talus's iron flail has likewise been linked to Spenser's Irish experience. McCabe identifies it as 'the weapon of choice for the [Irish] "bodach" or low-born churl', which 'well evokes the contradictions underlying the heroic aspirations of book five'; Palmer detects historical echoes of 'Sir Richard Bingham, the [*sic*] "the flail of Connacht", who was with Spenser at Smerwick and who figures as a major player in Irenius's plan to "reform" Ireland'.⁶⁹ But as I will suggest next, Talus's 'yron flayle' – or rather the hand that wields it – is also distinctly Spenser's own, the violent dismemberment that it helps to inflict upon Malengin highlighting the ruthless efficiency of *The Faerie Queene's* allegorical mechanism as it polices itself (V.ix.19.2).

Jane Aptekar notes that 'though force and, in particular, fraud are contrary to justice, though they are devilish instruments, again and again, in Book V, force is defeated by force, and guile by guile'.⁷⁰ Thus it is Arthur and Artegall's trap that 'ensnarle[s]' and the 'might and maine' of Talus's merciless 'yron flayle' that defeats Malengin, causing 'deceipt the selfe deceiuer [to] fayle' (V.ix.9.3; 19.2-3, 7). As Judith Anderson explains, the injustices Artegall and Arthur face in Book V must be solved by appeal to 'a recognizable or "fixed," static guise' because 'injustice, like Guyle, is not only lawless but formless and limitless or else it would not be

⁶⁷ Hadfield, p. 151. McCabe, 'Ireland', p. 71.

⁶⁸ Palmer, pp. 87, 74.

⁶⁹ Richard McCabe, *Spenser's Monstrous Regiment: Elizabethan Ireland and the Poetics of Difference* (Oxford: Oxford University Press, 2002), p. 219. Palmer, p. 88. On the flail as a symbol of heavy ordinance, or even as a phallic reminder of the threat of sexual violence deployed as a military weapon, see p. 90.

⁷⁰ Aptekar, p. 116.

unjust'. As such, the Malengin episode reflects not only on Book V's wider preoccupation with fixing injustice, but also and most particularly with fixing language itself, with asserting control over its textual life on the printed page.⁷¹ Extending Anderson's line of argumentation, I would suggest that for Talus to 'disentrayle' his bowels and to grind his bones to dust 'as small as sandy grayle' – in other words, to break Malengin up into his constituent parts – is to exorcise or divorce the 'mal' or evil intent from the 'engine' or allegorically embodied form that enables it and lends it power (V.ix.19.4-5). The act of reducing Malengin's various incarnations to one single image of 'carrion outcast' left 'For beasts and foules to feede vpon', an image the more efficacious for its very brutality, thus restores the poet's own 'engine' or *ingenium* to its legitimate form (V.ix.19.8-9). That form is 'BON FONT', the maker of good words whose 'wicked' other Malfont Arthur and Artegall pass on their way into Mercilla's shrine and whose tongue has been 'Nayld to a post' for 'forged guyle' (V.ix.26.4-5, 9; 25.5).⁷² For Spenser to reclaim the legitimate and authorised face of poetic feigning in this manner is to align the episode with the poem's wider efforts to anticipate and efface the 'mighty Peres displeasure' invoked at its very end (VI.xii.41.6).

In the previous sections, we saw Spenser invoke the concept of poetic ingenuity attaching to the word 'engine' in order to distance *The Faerie Queene's* allegorical imagery from the mechanisms of its own production. In Books I and II this serves to illustrate the crucial difference between the illicit charms of mere

⁷¹ Judith H. Anderson, "'Nor Man It Is": The Knight of Justice in Book V of Spenser's "Faerie Queene"', *PMLA*, 85.1 (1970), 65-77 (pp. 76-77); and Judith H. Anderson, *Words That Matter: Linguistic Perception in Renaissance English* (Stanford: Stanford University Press, 1996), p. 33.

⁷² On the etymology of 'font' from the Latin *fons* for 'fount' or the French *font* for 'maker', see Hamilton's gloss at V.ix.26.4-9n. Jay Harness reads Malfont and Bonfont as Spenserian alter egos in 'Disenchanted Elves: Biography in the Text of *Faerie Queene V*', in *Spenser's Life and the Subject of Biography*, ed. by Anderson, Cheney, and Richardson, pp. 18-30 (p. 27). On Spenser's practice of 'repeat[ing] images *in bono et in malo* according to a pattern in biblical exegesis', see Carol V. Kaske, *Spenser and Biblical Poetics* (Ithaca: Cornell University Press, 1999), p. 36.

cunning (or guile) and the moral edification afforded by the products of poetic *technē*. Malengin likewise reminds us of allegory's inherent polysemy. As I have shown, he embodies *The Faerie Queene*'s unruly poetic other – the real 'Hobgoblin runne away with the Garland from Apollo' and a figure not only for the various 'by-accidents' of meaning that Spenser feared his allegory might give rise to, but also for a rival allegorical method loosely allied with Catholic poetics.⁷³ In this context, his execution by Talus constitutes one of the poem's most brutal acts of iconoclasm and a forceful assertion of poetic decorum from which emerges a new, spiritually and politically inflected, idea of literary agency. As such, it reflects on Book V's wider concerns with poetic justice, as we will discover below in the final part of this chapter.

'KEEP[ING] BETTER MEASURE': POETIC JUSTICE IN BOOK V, CANTO II

As I suggested in the introduction to this chapter, *The Faerie Queene* reflects experiences and metaphors that draw upon the entire breadth of early modern machine culture. So far, we have seen Spenser allude to engines of warfare, to self-propelling technological marvels, and to abstract figurations of (poetic) deceit. In concluding this chapter, I would like to briefly turn to Artegall's debate with the Egalitarian Giant in Book V, canto ii. Less a machine than an instrument, although no less important to the mechanics of Spenser's allegory, his 'huge great paire of ballance' gives rise to several related acts of literal and metaphorical balancing that serve to illustrate the workings of equitable justice (V.ii.30.3). But as I will argue here, the Giant's scales also balance the poem's anxieties about the iconic power of

⁷³ [Gabriel Harvey], *A Gallant familiar Letter, containing an Ansvvere to that of M. Immerito, vvith sundry proper examples, and some Precepts of our Englishe reformed Versifying*, in *Three Proper, and wittie, familiar Letters: lately passed betveeen tvvo Vniuersitie men* (London, 1580), p. 50; STC 23095.

words, weighing it against the valorisation of the verbal image in contemporary poetic theory in a manner that reflects upon Spenser's allegorical machinery on the whole. Thus, whilst this episode precedes Artegall's confrontation with Malengin within Book V's allegorical narrative, I have chosen to discuss it last.

Compared to some of the metaphorical engines I have examined so far, the Egalitarian Giant and his 'huge great paire of ballance' have attracted much critical attention over the years, notably by Annabel Patterson, Judith Anderson, and, more recently, by Mary Thomas Crane. She situates the episode in the context of 'the late sixteenth-century breakdown of the Aristotelian scientific synthesis' and the epistemological uncertainties various contemporaneous and ongoing mathematical and natural philosophical debates generated.⁷⁴ In her account, the Giant's balance 'represents the appeal and dangers of a new experimentalism', a precision instrument for 'captur[ing] a stable truth about the material world' in a post-Aristotelian world lacking 'stability and intelligibility'. As such, it provides 'a literal causal connection between appearance and reality', the Giant's insistence on arithmetical 'equality' heralding a paradigm shift 'from an epistemology of essentialism or identity, to one of analogy' (V.ii.32.9).⁷⁵ Annabel Patterson and Judith Anderson identify the central issue of Book V, which comes to the fore in this episode, as 'the relation of words to truth'. Anderson reads the encounter with the Giant as 'Spenser's most outspoken treatment of language', his appearance 'question[ing] the very province of symbolism and specifically that of the symbolism of justice'.⁷⁶ Patterson detects in Artegall's debate with the Giant 'strains within justice as a theory [that] are exhibited as strains on the allegorical system itself', reading the episode as 'an internal critique of the way allegory, by setting static emblems in narrative motion, is bound to reveal

⁷⁴ Crane, p. 20.

⁷⁵ Ibid., pp. 28, 33, 36.

⁷⁶ Anderson, 'Weighing Words with Spenser's Giant', pp. 83, 70-71.

their inherent failures of logic or truthfulness’.⁷⁷ Following her argument, I would like to suggest that the Giant’s attempts to reduce all things ‘vnto equality’ reflect poignantly on Spenser’s project of balancing the early modern fascination with iconic words with the post-Reformation suspicion about their transformative power – of ‘keep[ing] better measure’, as he states at the very end of the 1596 *Faerie Queene* (V.ii.32.9; VI.xii.41.8).

The Egalitarian Giant’s balance summons a plethora of economic, judicial, political, and religious associations. Not only does he seek thereby to ‘reduce vnto equality’ perceived imbalances in the distribution of the elements of the natural world, thereby usurping and belittling the ‘heavenly iustice’ that first created them in perfect proportion as Artegall claims, but also the various human injustices that they signify (V.ii.32.9, 36.1). These include ‘Tyrants that make men subiect to their law’, ‘Lordings [...], that commons ouer-aw’, and the unequal distribution of wealth, which he ‘of rich men to the poore will draw’ (V.ii.38.6-9). To accomplish this, he proposes to weigh earth, sea, fire, air, heaven and hell together indiscriminately, ‘And looke what surplus did of each remaine, / He would to his owne part restore the same againe’ (V.ii.31.1-5, 8-9). The underlying assumption seems to be that the order of nature – or the lack thereof – reflects upon the manmade organisation of the polity: somehow the weight of material things (the elements) corresponds with and can restore balance to the political and socio-economic realms. Of course, as Artegall is quick to point out, the Giant’s scales ‘doe nought but right or wrong *betoken*’, setting an allegorical understanding of equality (or rather, equity) against the Giant’s

⁷⁷ Annabel Patterson, ‘The Egalitarian Giant: Representations of Justice in History/Literature’, *Journal of British Studies*, 31.2 (1992), 97-132 (p. 112).

literal and material one (V.ii.47.2, 5, my emphasis).⁷⁸ This constitutes a crucial moment not only in the immediate context of the antagonists' debate, but it also reflects on Spenser's strategies of balancing contradictory contemporary attitudes towards iconic words and images throughout *The Faerie Queene*.

As Anderson observes, there is ambiguity in the word 'betoken', signifying 'on the one hand, something that merely points to a thing and, on the other, something that has demonstrative validity in itself': in other words, the scales it refers to here signify both themselves and the underlying 'principles [...] according to which judgment must be rendered'.⁷⁹ By invoking the metaphorical dimension, Artegall shifts the terms of the debate away from the practical and material considerations of dispensing justice and towards contemplation of abstract concepts, thereby encoding the poem's insistence on similitude as a governing principle of its moral and theological allegory into its linguistic structure. Ironically perhaps, it is at the mathematical centre of V.ii.47 (line five) that the word 'betoken' occurs, literally balancing the material approach towards equality taken by the Giant in lines one to four with the allegorical explanation thereof Artegall offers in lines six to nine:

When when he saw, he greatly grew in rage,
And almost would his balances haue broken:
But Artegall him fairely gan asswage,
And said; Be not vpon thy balance wroken:
For they doe nought but right or wrong betoken;
But in the mind the doome of right must bee;
And so likewise of words, the which be spoken,
The eare must be the ballance, to decree
And iudge, whether with truth or falsehood they agree.⁸⁰

In placing his metaphorical balance, the 'righteous ballance' first invoked as a symbol of Astraea in canto i, at the stanza's dead centre, Spenser quite literally

⁷⁸ One contemporary dictionary defines equality with the Giant as 'likenes of weight'. See Thomas Thomas, *Dictionarium Linguae Latinae Et Anglicanae* (Cambridge, 1587), no pagination (entry 'Aequilibras, atis'); STC 24008.

⁷⁹ Anderson, 'Weighing Words with Spenser's Giant', p. 80.

⁸⁰ V.ii.47, my emphasis.

separates sign (the Giant's material 'balances') and referent ('the doome of right' they symbolise) at the line that distinguishes literal from allegorical meaning (the 'right and wrong' that they 'betoken').⁸¹ In doing so, he draws attention to the fact that it is only through the verbal sign on the page that we attain understanding of the allegorical 'ballance' or moral judgement that Artegall expounds to, and seeks to instil in, the Giant (V.i.11.9; V.ii.47.8).

The stanza thus suggests that what is under discussion both here and throughout Book V is not merely legal justice as it relates to the various economic and socio-political issues of topical interest in the 1590s, but also and most especially the act of doing justice to language itself, and more specifically, to the language of allegory. This is of considerable concern to Spenser throughout *The Faerie Queene*, where it is by appeal to poetic ingenuity that we have seen him weigh the merits of allegory as a genre against the taint of '*gealous opinions and misconstructions*' (LR 714.5). But it is in Book V that the relationship between rhetorical balance and poetic justice is most marked. Here, the idea of moderation – in both the judicial and literary sense of the term – is key. If it is Artegall's task to moderate various conflicting claims to justice – like the 'sharpe contention' between the brothers Bracidas and Amias that he 'appeased' in canto iv – it is Spenser's task to moderate the proliferating meanings and associations generated by the poem's allegorical wordplay (V.iv.20.7, 5). The Giant's scales unite these twin concerns in one powerful emblem, the extreme view of mathematical equality that the instrument symbolises giving rise to a correspondingly extreme (and therefore immoderate) understanding of language.

⁸¹ Cf. David B. Goldstein, *Eating and Ethics in Shakespeare's England* (Cambridge: Cambridge University Press, 2013), p. 112. Spenser here employs on the micro-level the rhetorical figure of *epanorthosis* or correction by which successive books or cantos correct their predecessors throughout *The Faerie Queene*. King, p. 68.

By trying to weigh not only ‘true’ and ‘false’ but also the moral concepts of ‘right’ and ‘wrong’ that the words signify, the Giant convicts himself of the stylistic crime that will also be Malengin’s later on in Book V. As Spenser writes in apology for Talus’s brutal execution of the Giant, ‘it was not the right, which he did seeke; / But rather stroue extremities to way’ (V.ii.45.5-6; 46.3, 5; 49.2-3). If Malengin is guilty of disregarding the rules of poetic decorum, the Giant breaches the precepts of judicial decorum (or equity). In trying to weigh ‘extremities’ he proves his judgment to be severely imbalanced. Like Malengin, he cannot keep measure either, ‘For of the meane he greatly did misleeke’ (V.ii.49.5).⁸² His refusal – or inability – to separate words from abstract concepts on the one hand, and from material things on the other, identifies him as another of the poem’s many embodiments of rhetorical indecorousness. For him to place word matter on a material continuum with mechanically quantifiable physical matter, however ‘light’ or inconsequential it may be deemed, is to tacitly admit to an idolatrous regard for the indwelling power of things that is at violent odds with sixteenth-century Protestant sensibilities (V.ii.44.2). Throughout, he imputes a degree of agency to the things of this world that denies the transcendent ‘powre of their great Maker’, ‘Whose counsels depth thou canst not vnderstand’, as Artegall contends (V.ii.40.8, 42.7). By transposing the mechanical instrument of the balance onto the metaphorical plane at V.ii.47.5, the latter reminds us that both words and images act as mere signs or tokens for that ‘counsels depth’, which neither physical matter nor word matter contain or signify in and of themselves. The failure to understand this ultimately costs the Giant his life. As in all of the previously discussed episodes addressed in this chapter, here too the mechanical instrument draws attention to, even demonstrates in visually and

⁸² Puttenham, p. 129. At V.ii.49.5, Spenser repeats the trick of placing the crucial word, here ‘meane’, at the stanza’s mathematical mean in line five, emphasising that it is through the verbal sign on the page that we attain understanding of the allegorical ‘meane’ Artegall invokes.

mathematically verifiable terms on the printed page, the allegorical mechanism that allows Spenser to balance the complicated relationship between words, images, and material things in *The Faerie Queene*.

The Egalitarian Giant's apocalyptic figure constitutes one of the most iconic characters in Book V. And like their owner, his 'huge great paire of ballance' represents what has been called 'an intrusion which is simultaneously the very substance of the narrative', a rhetorical instrument for generating not only the argument between the episode's two antagonists, but also the argument of canto ii in its entirety (V.ii.30.3).⁸³ The instrument's uncertain epistemological status, which oscillates between mechanical tool and abstract icon of justice throughout, has a profoundly unsettling effect on the episode's narrative, as we have seen. But it also performs two distinct functions: on the level of moral allegory, it teaches that as directly opposed linguistic and moral concepts truth and right 'with wrong or falsehood will not fare' (V.ii.48.1-2). As Artegall explains, (poetic) justice begins with a proper appreciation of words, which calls for 'two wrongs together to be tride, / Or else two falses, of each equall share; / And then together doe them both compare. / For truth is one, and right is euer one' (V.ii.48.6). As a metapoetic device, the Giant's scales reflect another attempt on Spenser's part to restore a sense of measure and poetic decorum to Book V's often violently destructive discourse on justice. In doing so, they help his readers to take measure of the poet's wit, the restoration of linguistic (and poetic) balance brought about in this episode clearly intended to soften the metaphorical blows delivered to Spenser's legend of justice by the brutality of Talus's violent interventions. For despite Artegall's insistence on

⁸³ Joan Copjec, 'The Anxiety of the Influencing Machine', *October*, 23 (1982), 43-59 (p. 44); quoted in Anderson, 'Weighing Words with Spenser's Giant', p. 84.

abstract principles, it is might, rather than virtue, that makes right both here and throughout Book V.

But as a symbol of the poet's *opus moderandi* throughout *The Faerie Queene*, the instrument also brings into the open the underlying dilemma of the late Elizabethan allegorist. It does not require too great a leap of the imagination to recognise in the Giant's (fruitless) attempts to weigh those 'winged words [that] out of his ballaunce flew' something of Spenser's own frustration with abandoning his own poetic creations to the elusive balance of his readers' judgement (V.ii.44.9). There is more than a hint of exasperation in his conclusion to Book VI, where the 'venemous despite', 'blamefull blot', and 'wicked tongues' incurred by the publication of *The Faerie Queene* prompts a bitter apostrophe: 'Therefore do you my rimes keep better measure, / And seeke to please, that now is counted wisemens threasure' (VI.xii.41.2, 4-5). In this context, the Giant's scales reflect poignantly on Spenser's difficulties in balancing the early modern fascination with allegorical devices, iconic figures of speech, and images with the post-Reformation suspicion about their transformative power. There is a sense in all of this that by the time Spenser reaches Book V of *The Faerie Queene*, the triumphalist narrative of poetic ingenuity that attaches to the allegorical machines of the early books has given way to a more muted appreciation of the possibilities – and limitations – of allegorical figuration. The Giant's scales may not drive the engines of the poet's wit in the same manner that cannons and automatic boats do in Books I and II, but they are nevertheless instrumental to *The Faerie Queene*'s work of legitimating allegory as a morally acceptable and useful literary form.

CONCLUSION

As I have sought to illustrate by close analysis of four of *The Faerie Queene*'s particularly iconic mechanical images, metaphors and ideas related to various early modern machines, engines, and instruments serve to distance the poem's moral and theological allegory from the mechanisms of its own production, illuminating and mediating various aspects of the vexed relationship between image, likeness, and idol that is of central concern to Spenser's literary project. We have seen how the 'subtile engins' of poetic ingenuity overcome the forces of error in Book I by exposing the literary mechanisms whereby Spenserian allegory works (I.viii.23.2). We have come to recognise in Phaedria's little-discussed automatic boat and its mechanical pin an intertextual mechanism for tempering the pleasures of 'painted forgery' that threaten to undermine Book II's allegory of temperance (II.Proem.1.4). We have helped Spenser restore authorial control over the unruly '*by-accidents*' of meaning that accrue around allegorical writing and reading by turning poetic decorum into the motor of Malengin's destruction in Book V (LR 714.7). And we have experienced first-hand with the Egalitarian Giant in Book V, canto ii, the difficulties of weighing words correctly at a time when the cultural, political, and theological implications of allegory – and of poetic creation more broadly – constantly threatened to overwhelm its literary project.

By association with early modern concepts of *technē* and *poiēsis*, and, more importantly still, with contemporary ideas about poetic ingenuity and wit, mechanical images like these allow Spenser to draw attention to the literary mechanisms underwriting the *The Faerie Queene*'s moral and theological allegory, inviting us to think both about and with the images it conjures in our imagination. As we have seen, this serves several related purposes at once: to emphasise the poem's

status as a textual object created in the technical sense of the term, and thus to dissociate Spenser from the charge of idolatrous image-making by enabling metapoetic reflection upon its own techniques; to maintain (or restore) critical distance between us as readers and the illicitly seductive appeal of the poem's allegorical worlds; and to render transparent the literary mechanisms by which allegory manufactures reader response and prompts us towards the work of interpretation, the ultimate goal being the legitimisation of allegory as a Protestant medium of truth. For Spenser to mine the various etymological, literary, and theological associations encoded in the word engine and related mechanisms invoked throughout *The Faerie Queene* is thus to recuperate a legitimate form of poetic making that seeks to balance the several, and often contradictory, demands placed upon Elizabethan England's self-proclaimed national poet.

3. CORNELIS DREBBEL, BEN JONSON AND THE POETICS OF INVENTION

If early modern concepts of engine and ingenuity enabled Spenser to successfully mediate the idolatrous potential of allegorical imagery, Jonson's predominantly hostile response to the magico-mechanical devices that the Dutch alchemist, engineer, and inventor Cornelis Drebbel (1572-1633) popularised at the Jacobean court reflects a growing uneasiness with the challenges new (visual) technologies posed to literary culture in the early seventeenth century. Prominent among these was Galileo Galilei's (1564-1642) much improved telescope, which in 1609 he trained on the moon, providing for the first time empirically verifiable evidence for the radically new cosmological theories advocated by Copernicus and his followers. But as Thomas Hankins and Robert Silverman remind us, in the early seventeenth century the arrival of technologies that 'distorted nature in some way, either by magnifying it [...], or by producing an unnatural condition' prompted a complex debate not only about human perception, but also about the relationship between instrumentality and textuality that this thesis seeks to explore. Thus, although instruments were thought to be able to 'speak for nature', there was little consensus as to whether they could be relied upon to represent natural phenomena correctly.¹

It is in the context of this debate about the merits not only of new visual technologies, but of visual spectacle more generally – which also made itself felt in the Jacobean theatre – that I propose to discuss Jonson's literary response to three of Drebbel's best known inventions: the perpetual motion machine he dedicated to James in 1607, his telescope, and what seems to have been an early version of the

¹ Thomas Hankins and Robert Silverman, *Instruments and the Imagination* (Princeton: Princeton University Press, 1995), pp. 3, 113.

magic lantern. A prolific dramatist and exponent of those ephemeral amalgamations of painting, architecture, mechanics, music, dancing and poetry that constituted the Stuart masque, Jonson was particularly well placed to comment upon the vexed relationship between early modern literary, mechanical, and visual cultures that Drebbel's machines embody.² In this chapter I will argue that in *Mercury Vindicated from the Alchemists at Court* (1615), *News from the New World Discovered in the Moon* (1620), and *The Masque of Augurs* (1622), Jonson's critical engagement with Drebbel's spectacular machines – and with the various narratives of political, scientific, and literary authority attaching to them – not only gives rise to startling insights into the mechanics of Stuart power, but also reflects related battles for interpretational control over the natural, literary, and political worlds of Jacobean England. As we will see, for Jonson Drebbel's magico-mechanical inventions are devices both to satirise and to think with.

Something of a cross between entertainer, inventor, magician, and scientist, Drebbel was one of several foreign engineers that the cultural renaissance at the Stuart court attracted to London in the first decade of the seventeenth century, many of them hired to cater to James and Prince Henry's extravagant taste for the mechanical marvels and technological gadgets that had taken baroque courts across Europe by storm.³ At one end of the spectrum, these included the French Huguenot engineer Salomon de Caus (1576-1626) and the celebrated Florentine garden architect Constantino de Servi (1554-1622), both of whom Henry employed to

² For recent theories of the relationship between visual and material culture, see Tara Hamling and Catherine Richardson, 'Introduction', in *Everyday Objects: Medieval and Early Modern Material Culture and its Meanings*, ed. by Tara Hamling and Catherine Richardson (Farnham, UK/Burlington, VT: Ashgate, 2010), pp. 1-23 (pp. 10-11).

³ The Calendar of State Papers (Domestic) for the year 1625 records that in James's funeral procession on 5 May Drebbel 'walked between Baston le Peer the dauncer, under officers of the Mynte, Actors and Comedians', suggesting that towards the end of James's reign he occupied an ambivalent position at court. L. E. Harris, *The Two Netherlanders: Humphrey Bradley and Cornelis Drebbel* (Leiden: Brill, 1961), p. 194. Roy Strong, *Henry, Prince of Wales and England's Lost Renaissance* (New York: Thames and Hudson, 1986), pp. 86, 88.

oversee the ambitious transformation of the gardens at Richmond Palace into a landscaped fantasy of fountains, caves, and mechanical grottos.⁴ Drebbel, by contrast, offered a vision of technology that was firmly rooted in the popular appeal and extraordinary theatricality of natural magic, which sought to manipulate the supposedly occult properties of the natural world to create extraordinary effects, bridging the gap between early modern science and technology.⁵ Hailed by some of his contemporaries as ‘*Cornelius the Dutchman the most admired man of Christendome for singuler Inuention and Arte*’, he constructed an eclectic array of devices that included self-regulating clockworks, the *perpetuum mobile*, innovative microscopes, telescopes, a magic lantern, a camera obscura, several working submarines and a chicken egg incubator, as well as a new method for dyeing scarlet and several other chemical processes then unknown in England.⁶

While Jonson’s active and highly informed interest in the scientific and technological pursuits of his royal patrons has been well documented by David McPherson, whose inventory of the poet’s library reveals a moderate but unusual interest in contemporary mathematics, science, and technology, his long-standing

⁴ Luke Morgan, ‘Landscape Design in England Circa 1610: The Contribution of Salomon de Caus’, *Studies in the History of Gardens & Designed Landscapes*, 23.1 (2003), 1-21 (pp. 1-3); Roy Strong, *The Renaissance Garden in England* (London: Thames and Hudson, 1979), pp. 91-93, 107; Alexander Marr, ‘“A Duche graver sent for”: Cornelis Boel, Salomon de Caus, and the Production of *La Perspective avec la Raison des Ombres et miroirs*’, in *Prince Henry Revived: Image and Exemplarity in Early Modern England*, ed. by Timothy Wilks (London: Southampton Solent University in association with Paul Holberton Publishing, 2007), pp. 212-38 (p. 219). For a detailed analysis of Henry’s gardens at Richmond see Strong, *The Renaissance Garden*, pp. 97-103.

⁵ *OED Online*, ‘magic, n.’, 1b. Francis Bacon defines natural magic as ‘NATVRALL WISEDOME, or NATVRALL PRVDENCE, taken according to the ancient acception, purged from vanitie & superstition’. *The Twvoo Bookes of Francis Bacon. Of the proficience and aduancement of Learning, diuine and humane* (London, 1605), sig. Ff4^r; STC 1164.

⁶ H. A. M. Snelders, ‘Drebbel, Cornelis (1572-1633)’, *ODNB*; G. E. P. A., ‘Proposals for Building an Amphitheatre in London, 1620’, *Notes and Queries*, s11-X (260) (1914), 481-82 (p. 482). The most recent academic study on Drebbel is Vera Keller’s thesis, ‘Cornelis Drebbel (1572-1633): Fame and the Making of Modernity’ (unpublished doctoral dissertation, Princeton University, 2008). Classic older studies include Harris’s above-mentioned *The Two Netherlanders*, Gerrit Tierie, *Cornelis Drebbel (1572-1633), Proefschrift Ter Verkrjging van den Graad van Doctor in de Wis- En Natuurkunde Aan de Rijksuniversiteit te Leiden* (Amsterdam: Paris, 1932), and F. M. Jaeger, *Cornelis Drebbel En Zijne Tijdgenooten* (Groningen: Noordhoff, 1922).

literary relationship with Drebbel has not garnered as much attention.⁷ However, strong factual evidence, as well as sustained satirical allusions to the engineer in his literary works, suggests that Jonson knew the man whom he referred to as ‘my antagonist at Eltham’ by reputation, at the very least, and possibly even in person.⁸ The two men not only shared several acquaintances among the members of Gresham College, but also a mutual friendship with the German scholar Joachim Morsius, who edited Drebbel’s *Chemici & Mechanici Svmmi, Tractato Duo* (1621) and whose *album amicorum* the engineer signed in November 1619 – two months before Jonson composed a complimentary inscription to Morsius that survives in one of the books he owned.⁹ An oblique and hitherto undetected allusion to Drebbel in Jonson’s 1610 comedy, *The Alchemist*, further indicates the poet’s detailed knowledge of the inventor’s career. There, he describes Subtle, the play’s eponymous protagonist, as an ‘excellent artist’ and ‘A man the Emp’ror / Has courted, above Kelley, sent his medals / And chains t’invite him’: in 1610 an emperor did indeed send a ‘rich chaine of gold’ to such a man, the emperor being Rudolph II and the recipient of such honours none other than the ubiquitous Drebbel (*CWBJ* 3.654.82, 655.89-91).¹⁰ All

⁷ David McPherson, ‘Ben Jonson’s Library and Marginalia: An Annotated Catalogue’, *Studies in Philology*, 71.5 (1974), 1+3-106 (pp. 28-29, 39-40, 43, 46, 48-49). Roughly fifteen percent of Jonson’s library was devoted to philosophy, natural science, mathematics, pseudo-science, and Christian mysticism, pp. 7-8. By comparison, among the two hundred and eight books owned by his friend John Donne, only six can be labelled scientific at all, and none document the mechanical arts. See Geoffrey Keynes, *A Bibliography of Dr. John Donne*, 4th edn (Oxford: Clarendon Press, 1973), pp. 263-79. Several of Jonson’s allusions to Drebbel have been noted by Keller, pp. 21, 125-27, and more recently by the editors of the *Cambridge Works of Ben Jonson*.

⁸ Ben Jonson, *The Key Keeper: A Masque for the Opening of Britain’s Burse April 19, 1609*, ed. by James Knowles (Tunbridge Wells: The Foundling Press, 2002), p. 17.

⁹ Ian Donaldson, *Ben Jonson: A Life* (Oxford: Oxford University Press, 2011), pp. 396-97; Jennifer Drake-Brockman, ‘The Perpetuum Mobile of Cornelis Drebbel’, in *Learning, Language and Invention: Essays Presented to Francis Maddison*, ed. by W. D. Hackmann and A. J. Turner (Aldershot/Paris: Variorum and Société Internationale de l’Astrolabe, 1994), pp. 124-47 (p. 138); McPherson, p. 93.

¹⁰ Thomas Tymme, *A Dialogue Philosophicall* (London, 1612), p. 62; STC 24416. The relevant passage reads: ‘The fame [of Drebbel’s *perpetuum mobile*] caused the Emperor to entreate his most excellent Maiestie [James] to licence *Cornelis Bezaleel* to come to his [Rudolph’s] Court, there to effect the like Instrument for him, sending vnto *Cornelius* a rich chaine of gold’. ‘Kelley’ refers to Sir Edward Kelley, the famous Elizabethan alchemist and close collaborator of John Dee. Louise Schleiner, ‘Kelley, Sir Edward (1555-1597/8)’, *ODNB*.

of this suggests that Jonson was well acquainted not only with the intellectual milieu to which Drebbel belonged, or indeed with his social circle; it also accounts for his ability to intellectually engage with the specifics of Drebbel's ideas and inventions, as I illustrate throughout.¹¹

As sincere in his pursuit of scientific knowledge and technological innovation as he was eager to 'make science pay', Drebbel sought to secure patronage and generate cultural capital by manipulating the particular political implications of his various magico-mechanical devices, many of which lent themselves well to advancing the political ideology of the early Stuart court, as we will discover.¹² It is perhaps for this reason that he aroused Jonson's implacable enmity, as Inigo Jones (1573-1652) would at a later stage in the poet's career. William Drummond of Hawthornden's *Informations* paint a contradictory picture of Jonson as a man who is 'jealous of every word and action of those about him' and 'thinketh nothing well but what either he himself or some of his friends and countrymen hath said or done', who is 'vindicative, but, if he be well answered, at himself'.¹³ In dealing with the writings of a man both 'passionately kind and angry', one therefore faces the very real problem of gauging whether Jonsonian invective reflects genuine hatred, the mere flashes of an easily excitable temper, or simply a literary predilection for the rhetoric of outrage (*CWBJ* 5.391.559). But as my discussion of the inventor's machines in *Mercury Vindicated*, *News from the New World*, and *Augurs* will make

¹¹ Despite his own limited textual output, Drebbel's impact on contemporary literary and scientific culture is noteworthy. See Robert Grudin, 'Rudolph II of Prague and Cornelis Drebbel: Shakespearean Archetypes?', *Huntington Library Quarterly*, 54.3 (1991), 181-205, and Rosalie Colie, 'Cornelis Drebbel and Salomon de Caus: Two Jacobean Models for Salomon's House', *Huntington Library Quarterly*, 18.3 (1955), 245-60. On Drebbel's place in the scientific community of early modern Europe, see Tierie, pp. 35, 38-39.

¹² Harris, p. 159.

¹³ William Drummond of Hawthornden, *Informations*, ed. by Ian Donaldson, in *The Cambridge Edition of the Works of Ben Jonson*, ed. by David Bevington, Martin Butler, and Ian Donaldson, 7 vols (Cambridge: Cambridge University Press, 2012), v, p. 391.555-60. Subsequent references to Jonson's works refer to this edition unless otherwise specified. They will be provided in the text, abbreviated to *CWBJ* followed by volume, page, and line numbers.

clear, whatever the reasons for Jonson's evident contempt for the man, Drebbel's machines provide him with an important tool for thinking about the value of (poetic) invention.

David Bevington and Peter Holbrook have suggested that as a generic form, the masque reveals how 'political and social authority invents and replicates itself'.¹⁴ Here, I wish to expand their argument by examining how repeated allusions to Cornelis Drebbel's mechanical marvels in Jonson's later masques help (and possibly hinder) that process. In the first part of this chapter, I uncover several parallels between the alchemical satire of *Mercury Vindicated* and contemporary accounts of Drebbel's perpetual motion machine, which the inventor conceived and presented as a mechanical embodiment of James's absolutist ideology. I will argue that the masque constitutes a critique not only of the machine's principles, but of the vision of Jacobean kingship – and society – that it emblematised. As such, it provides Jonson with the opportunity to assert a qualitative difference between the fraudulent (alchemical) poetics that sustained its artificial motion and the animating power of poetry.

News from the New World, meanwhile, relates the concerns about Jacobean England's political cosmos raised in *Mercury Vindicated* to larger cultural shifts precipitated by the advent of Galileo's much improved telescope and of the astronomical discoveries it prompted in the second decade of the seventeenth century. Here, I suggest that Galileo's powerful and constantly evolving instrument gave rise to a new poetics of power by symbolically extending the (visual) range of earthly authority, as a specimen Drebbel offered to construct for James in 1613 attests. At the same time, the new astronomy cast into serious doubt traditional

¹⁴ David Bevington and Peter Holbrook, 'Introduction', in *The Politics of the Stuart Court Masque*, ed. by David Bevington and Peter Holbrook (Cambridge: Cambridge University Press, 1998), pp. 1-19 (p. 5).

cosmologies and the metaphorical conventions that had sustained both them and poetic discourse into the seventeenth century. Conducting a satirical dialogue with Galileo's influential *Starry Messenger* (1610), *News from the New World* responds by reinventing discovery along poetic lines, creating a new hierarchy of the senses predicated upon a qualitative difference between sight and poetic vision.

In the third and final part of this chapter, I investigate mutually constitutive relationships of optical and rhetorical illusion in *The Masque of Augurs*, which offers sustained allusion to Drebbel as the ridiculous antimasque character Vangoose. As we will see, the optical illusions he proposes to conjure with the help of a magic lantern give rise to a creative antagonism between related concepts of visual and rhetorical wit, allowing Jonson to negotiate the growing tension between visual representation and poetic ideal both in the medium of the masque and in Jacobean culture more widely. Together, these three masques register a unique perspective on important epistemological shifts that occurred when new scientific technologies and the discoveries they prompted began to challenge the monopoly upon truth that Jonson, as the self-proclaimed poet laureate of the Jacobean regime, claimed for himself.

ABSOLUTE RHETORIC: DREBBEL'S *PERPETUUM MOBILE* IN *MERCURY VINDICATED*

One of Drebbel's most celebrated 'living instruments' – and in many ways the epitome of the Renaissance tradition of natural magic that he espoused – was the perpetual motion machine (*fig 8*) that he demonstrated to James in or around 1607.¹⁵ It came at a point in his reign when questions of dynastic perpetuity, national unity, and royal prerogative were highly topical. Drebbel himself describes this device as a

¹⁵ Cornelis Drebbel, *Wonder-vondt van de eeuwigher bewegingh* (Alkmaar, 1607), quoted in Keller, p. 502. The translation from the Dutch is Keller's own, which I use throughout this chapter.

‘sphere that can move perpetually following the course of heaven, [...] showing us the years, months, days, hours, the course of the Sun, the Moon, all the planets, and stars, whose course is known to Men’ – a mechanical ‘wonder above wonders’ to titillate the Stuart court and provide a material embodiment of its political ideology, as we will see.¹⁶ Now understood in more sober terms as an early version of the barometer, this small model of the Ptolemaic universe, which features in several of

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Jonson’s poetic and dramatic works including *Mercury Vindicated*, derived its motion from changes in air temperature and atmosphere and has been hailed as a forerunner to the thermometer that Galileo would develop later in the seventeenth century.¹⁷ Succeeding generations of scientists have judged Drebbel’s pretensions to

¹⁶ Ibid., pp. 499, 502.

¹⁷ Hankins and Silverman, p. 4. On the early natural magical contexts of Drebbel’s *perpetuum mobile* and its importance for the development of the modern thermometer, see Arianna Borrelli, ‘The Weatherglass and its Observers in the Early Seventeenth Century’, in *Philosophies of Technology: Francis Bacon and His Contemporaries*, ed. by Claus Zittel et al. (Leiden: Brill, 2008), pp. 67-130 (pp. 88-108).

perpetual motion harshly, at no small cost to his reputation. But at the time his extraordinary machine intrigued and puzzled in equal measure – precisely because the inventor knew exactly how to exploit its metaphorical potential to advance his own position at court and to flatter the royal patron upon whose goodwill his financial security depended.

By reading the *perpetuum mobile* as a machine ‘capable of enacting some of the most potent fantasies of the Jacobean court’, Jessica Wolfe has transformed our understanding of the device.¹⁸ Throughout, I build upon and develop her argument in my own analysis of its impact upon *Mercury Vindicated*. As we will discover, Drebbel’s *perpetuum mobile* formed the nucleus of mutually reinforcing alchemical, mechanical, and political fictions, constituting a particularly poignant transaction between early modern text and machine. However, my main purpose in this section will be to extend our understanding of its political implications by placing it in the context of Jonson’s 1615 masque *Mercury Vindicated*, where it inspires an elaborate analogy between its own self-validating principles and a corresponding socio-political fiction, as I will show.¹⁹ Later on in this chapter, I will uncover Jonson’s reaction to the challenges that spectacular new visual technologies associated both with contemporary scientific practice and with older forms of natural magic posed to literary culture in the first decades of the seventeenth century. Here, I am concerned with his critique of the rhetoric of mechanical spectacle more generally, and with what he perceived as the seductive but nevertheless fraudulent vision of power that it enabled.

¹⁸ Jessica Wolfe, *Humanism, Machinery, and Renaissance Literature* (Cambridge: Cambridge University Press, 2004), p. 67.

¹⁹ On the dating of the masque see John Orrell, ‘The London Stage in the Florentine Correspondence: 1604-1618’, *Theatre Research International*, 3 (1977-78), 157-76 (p. 174).

Writing about James as a ‘royal author’, Howard Marchitello suggests that ‘the articulation of power’ in the early Stuart reign was circumscribed by the twin impulses of visibility and mystery: ‘Even as he sought to ground his own specific (and generic) political authority in texts of his own patriarchal authorship, James found it necessary to resist [...] the *sovereignty of textuality*’, meaning ‘the very legibility – the rendering explicit and concrete – of royal authority’.²⁰ For at the same time that Stuart power depended upon the visibility achieved by ‘declarations and proclamations, as well as other political texts’ (including the royal masque), James was also aware of the danger of defining – and thereby of limiting – royal prerogative.²¹ Thus, he repeatedly emphasised that ‘the mysterie of the King’s power, is not lawfull to be disputed; for that is to wade into the weakenesse of Princes, and to take away the mysticall reuerence, that belongs vnto them’.²² Although he affected to ‘study clearenes, not eloquence’ and professed himself ‘a transparent glasse for you all to see through’, mystification, obfuscation and the careful cultivation of ‘*arcana Imperij*’, or secrets of state, were integral to his absolutist ideology and discourse.²³ Drebbel’s *perpetuum mobile* proved especially well suited to the rhetoric of Stuart kingship insofar as it seemed to embody the ‘mysticall reuerence’ the king laid claim to in the political sphere. As I shall demonstrate, extant commentaries including Drebbel’s own invoke its emblematic qualities not only as a symbol of James’s own pretensions to learning, but also, and more importantly, of the mystery and perpetuity of royal power and absolute

²⁰ Howard Marchitello, ‘*Pater Patriae*: James I and the Imprint of Prerogative’, in *Printing and Parenting in Early Modern England*, ed. by Douglas A. Brooks (Aldershot, UK/Burlington, VT: Ashgate, 2005), pp. 303–24 (p. 304).

²¹ *Ibid.*, pp. 315–316.

²² *King James VI and I: Political Writings*, ed. by J. P. Sommerville (Cambridge: Cambridge University Press, 1994), p. 213.

²³ *Ibid.*, pp. 162, 250.

prerogative, thereby placing it squarely in the context of contemporary political debate.²⁴

As early as 1604, the newly crowned King James sought to underline the ideological importance of what he called the ‘apparance [*sic*] of perpetuity’. This applied to the continuation of his dynastic line as well as to his long-term political goals and acquired particular meaning in 1607, when he lobbied again – and still unsuccessfully – for the political union of England and Scotland.²⁵ It may or may not be a coincidence that Drebbel chose to dedicate and present his *perpetuum mobile* to James in that year. But as Jessica Wolfe has observed, and as several contemporary testimonies suggest, the fact remains that from its inception it was assimilated as a ‘working model’ of Stuart kingship, acting as a ‘symbolic arbiter of stability and continuity’, a material reminder and legitimation of the prevailing Stuart ideologies of divine kingship and absolute monarchy.²⁶ In his own dedication to James (published in 1607 as *Wonder-vondt van de eeuwighe bewegingh*), Drebbel employs immensely rich and colourful rhetoric in a more or less explicit attempt to align the machine with James’s immediate political agenda, while near-contemporaneous accounts of its presentation at court seem to dwell above all upon those symbolic qualities the machine was perceived to share with absolutist theory more generally, which held that the monarch derived his power to govern immediately from God as prescribed by the law of nature and confirmed by Scriptural authority.²⁷

Capitalising on the political situation in 1607, Drebbel himself carefully situates the device in the context of the royal campaign for the union of the two

²⁴ On machines in general as guarantors of ‘an aura of techno-political mystery’, see Wolfe, pp. 63-65.

²⁵ *King James VI and I*, pp. 137, 134-37.

²⁶ Wolfe, pp. 66-67. See also Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (London/New York: Routledge, 2007), pp. 122-23.

²⁷ J. P. Sommerville, *Politics and Ideology in England, 1603-1640* (London/New York: Longman, 1986), pp. 33-34, 47-48.

kingdoms, which James considered paramount to ‘the securitie and establishment of this whole Empire, and litle World’.²⁸ In a speech to parliament on the subject, James proclaimed the result of such ‘a perfect Vnion of Lawes and persons [...] vnder mee your King’ to be peace, prosperity, love and the free exchange between the two nations.²⁹ Drebbel’s *Wonder-vondt* employs similar tropes. It praises ‘the wisdom of the peace-loving kings, who seek to prevent misdeed through good laws, and to punish even righteously through *Justitia*’; it extols James as a model to all rulers, praying ‘that all men (O King, just as we, your subjects) should taste of the true pleasure of divine peace’; and its grandiloquent promise that the device ‘will not falter once in a thousand years’ resonates strongly with James’s own dynastic aspirations, namely ‘That I and my posteritie [...] may rule ouer you to the worlds ende’.³⁰ Drebbel concludes that ‘As an opening for this I have begun this work of mine’, thereby self-consciously casting the ‘litle World’ or miniature cosmos his *perpetuum mobile* represented as a perfect model for James’s vision of a unified Britain as ‘Empire’, celebrating in figurative terms the advent of an era where ‘in place of cruel war’ the restoration of cosmic harmony under joint Stuart rule over England and Scotland will enable men everywhere to ‘enjoy the sweetness of the arts’.³¹

A contemporaneous eyewitness account by the Bohemian gentleman traveller Heinrich Hiesserle von Chodaw – who was at court when Drebbel first presented his machine to James and whose testimony survives in the form of a diary entry – underscores the symbolic value of the machine’s mysterious motion for the rhetoric

²⁸ *King James VI and I*, p. 159.

²⁹ *Ibid.*, pp. 161, 168.

³⁰ Keller, p. 502; *King James VI and I*, p. 161.

³¹ Keller, p. 504.

of absolutist kingship more generally.³² The most telling passage in his account records an exchange between the as yet incredulous James and Drebbel, who seeks to convince the king that he alone among ‘all learned men from the beginning of the world’ has discovered the secret of perpetual motion. Pressed to reveal its cause and nature, Drebbel suggests that it ‘lay inside, as manifest art, hidden, yet attainable, and which made everything move’; for these reasons ‘He [...] would not wish to reveal the secret so quickly’.³³ Although nothing in von Chodaw’s account suggests that Drebbel made the analogy himself, this image of a hidden power ‘which made everything move’ invites comparison with the ‘absolute and indisputable Prerogative, concerning the calling, continuing, and dissolving of Parliaments’ that James would go on to invoke repeatedly in his dealings with the two houses, as Jessica Wolfe has pointed out.³⁴ In his own dedication to James the inventor shows himself readily attuned not only to James’s personal vanities, but also to the nuances of Jacobean political ideology. He must have known that the ‘manifest art’ responsible for the artificial revolutions of the machine’s various spheres would hold considerable appeal to a king who habitually claimed dominion not only over Parliament, but also over most aspects of his subjects’ private and public lives. It does not seem inconceivable, therefore, that he intended the artificial Ptolemaic cosmos of the machine as a readily recognisable reflection of that absolute principle of power by which James claimed to move and shape the political cosmos.

Thomas Tymme’s 1612 treatise, *A Dialogue Philosophicall*, both reiterates and adds to these early attempts to align the *perpetuum mobile* with the rhetoric of Stuart absolutism by establishing an even more explicit analogy between the

³² The relevant extract of von Chodaw’s diary, *Raiss Buch und Leben*, preserved in Prague Nat. Mus. vi A 12, fols 48^v-50^f, has been reproduced in translation in Drake-Brockman, pp. 128-29.

³³ *Ibid.*, p. 128.

³⁴ *King James VI and I*, p. 250. Wolfe, p. 66.

machine's motive power and that of Jacobean kingship. It is of additional interest here because Tymme's vague explanation of the machine's principles along alchemical lines is echoed in *Mercury Vindicated*, as we will see shortly. He explains that in order to give motion to the miniature cosmos that the device represented, Drebbel

extracted a fierie spirit, out of the minerall matter, ioyning the same with his proper Aire, which enclued in the Axeltree, being hollow, carrieth the wheeles, making a continuall motion or reuolution, except issue or vent be giuen to the Axeltree, whereby that imprisoned spirit may get forth.³⁵

Tymme's language is heavily inflected by alchemical terminology, as his allusions to extractions, 'fierie spirit[s]', and 'minerall matter' make clear. His description is evidently designed to tantalise rather than to reveal the secret of the machine's miraculous motion, which 'this cunning *Bezaleel*, in secret manner disclosed to his Maiestie', and crucially, to the king alone.³⁶ As Wolfe has poignantly observed, by establishing an analogy between mechanical and politically motivated kinds of secrecy, Tymme aligns the esoteric knowledge of 'minerall matter' and fiery spirits that the above passage suggests went into the artificial animation of the machine with the hidden principles of the Stuart *arcana imperii*. She thus aptly concludes that in James's exclusive custody 'Drebbel's device unites and places on a level the esoteric machines of the mechanician with the mysteries of state that are the instruments of absolute monarchy', its astronomical features confirming the validity, constancy, and replicability on earth of those heavenly laws that according to absolutist theory also ordained the power of monarchs.³⁷

But more than this, the reception and assimilation of the *perpetuum mobile* into the discourse of Stuart kingship also illustrates how in particular circumstances

³⁵ Tymme, p. 62.

³⁶ Ibid.

³⁷ Wolfe, pp. 66-67.

mechanical and political fictions could and did mutually reinforce and perpetuate one another, the concealed essence at the heart of the machine pointing towards the essence of the political mysteries it allegorises.³⁸ Expanding upon Wolfe's point, I would add that, ultimately, both depend upon the spectator's – or the subject's – willingness to suspend disbelief: what all three of these accounts imply is that like the extraordinary claims to absolute power that James staked during the first years of his reign, the *perpetuum mobile*'s spectacular success depended upon the extent to which its inventor could persuade his audiences of its veracity. Here, I want to argue that it is Jonson's insight into its dependence upon rhetorical artifice that drives his satire in *Mercury Vindicated*, which offers a poignant critique not only of Drebbel's machine, but also of the self-perpetuating political fiction that it came to embody, as I shall demonstrate next.

Throughout Jonson's printed works, allusions to Drebbel's *perpetuum mobile* register the poet's latent discontent with aspects of Stuart court culture, specifically with the self-perpetuating flatteries that circumscribed virtually all official representations of the king including his own, and which Drebbel's perpetual motion embodied effectively and unquestioningly.³⁹ It may be true that 'the court masque was not a vehicle in any simple sense for Jonson's own views', as Ian Donaldson points out, and that the poet's dependence upon the courtly patronage system required him to adopt the official programme of effusive praise for James's political virtues.⁴⁰ But I would nevertheless suggest that throughout his works, and in

Mercury Vindicated in particular, thus far unacknowledged allusions especially to the

³⁸ Cf. Mario Biagoli, 'Galileo the Emblem Maker', *Isis*, 81.2 (1990), 230-58, pp. 254-55. Biagoli's case study is Medici Florence. He argues that court culture and the scientific practitioners it attracted existed in symbiosis, with political mythology legitimating new scientific discovery and vice versa.

³⁹ In *Informations*, Hawthornden records that Jonson 'hath a mind to be a churchman, and so he might have favour to make one / sermon to the King, he careth not what thereafter should befall him; for he would / not flatter, though he saw death', *CWBJ* 5.376.254-56.

⁴⁰ Donaldson, p. 254. See also David Norbrook, *Poetry and Politics in the English Renaissance*, rev. edn (Oxford: Oxford University Press, 2002), ch. 7.

self-validating alchemical rhetoric of Drebbel's machine precipitate an implicit critique of Jacobean court culture and its socio-political fictions.

Jessica Wolfe's influential reading of the *perpetuum mobile* as a potent metaphorical extension of the Jacobean propaganda machinery is corroborated by the extant accounts of its reception at court. But I would argue that in Jonson's works it emblematises above all that court's self-referentiality. As Mario Biagoli explains, this was a pan-European phenomenon, manifesting itself in terms of a 'cultural closure' of the baroque court to anything but 'itself, to the prince, or to the culture of other courts'.⁴¹ King James actively supported foreign talent, both artistic and mechanical, thus complicating Biagoli's account of the cultural closure of the seventeenth-century court. But his argument does hold for much of the literary and artistic output in praise of Jacobean absolutism, which like the self-moving automatism of Drebbel's machine depended upon the collusion of an audience willing to suspend disbelief.⁴² The same is true of the theatre and especially of the Stuart masque. But Jonson's fictions, although heavily circumscribed by courtly decorum, are rarely facile or demand an unthinking and unquestioning kind of consent from his readers.

Thus, whenever the *perpetuum mobile* appears in Jonson's various dramatic and poetic works it is almost invariably in the context of social satire, often of characters clearly recognisable as social climbers not entirely unlike Drebbel himself. In *Epicene* (1609), for instance, it acts as a metaphor for the protagonist's hopeless misanthropy and self-absorption, which prompts him to complain of the recent disturbances at his house that 'The perpetual motion is here, and not at Eltham', where Drebbel resided for a time when he first came to England (CWB 3.492-93.46-

⁴¹ Biagoli, pp. 254-55.

⁴² Ibid., p. 256.

48). In *News from the New World* (1620), which I discuss in a different context below, it allows Jonson to '[contrast] Drebbel's false perpetuity with royal power', as James Knowles posits in his explanatory notes (*CWBJ* 5.443.287-96n). Here, Jonson manages the remarkable balancing act of complimenting the monarch while dismissing part of the marvellous machinery upon which royal ideology had, for a time during the crucial formative years of his reign, depended. By the time he writes *The Staple of News* (1625), the wonders of the machine have dwindled by comparison. In the play, it features as an invention 'found out by an alewife in Saint Katherine's / At the sign o'the Dancing Bears', a location familiar from *The Masque of Augurs*, where it provides a suitably grubby background to a number of gratuitous and vulgar entertainments (*CWBJ* 6.87.105-6).⁴³

Most pertinent to my argument in this section is Epigram 97 'On the New Motion' (c. 1607), in which the quickly dismissed 'Eltham thing' gives rise to a clever parody of the archetypal puffed-up courtier with 'His rosy ties and garters so o'er-blown, / By his each glorious parcel to be known!' (*CWBJ* 5.164.2, 5-6). As we will discover shortly, a similar notion of self-regarding artifice wholly dependent upon external validation underwrites Mercury's complaint in *Mercury Vindicated*, where the artificial alchemical creation of men 'of rarity and excellence, such as the / times wanted [...]; such, as there was a / necessity they should be artificial', is highly topical (*CWBJ* 4.439.105-7).⁴⁴ Here, Jonson subjects the rhetoric of Stuart absolutism that the *perpetuum mobile* embodied to extensive revision, seeking to

⁴³ Writing in 1648, John Wilkins notes that Drebbel's perpetual motion 'hath stood still for many years', vindicating Jonson's unfavourable intuitions. John Wilkins, *Mathematicall Magick. Or, The Wonders That may be performed by Mechanicall Geometry. In two Books* (London, 1648), p. 230; Wing W2199.

⁴⁴ Cf. Henry Peacham's dismissive reaction to 'the heauenly Motion of Eltham' in his mock panegyric prefaced to Thomas Coryate's *Crudities*, where he compares it to 'trifles, and toys not worthy the viewing' that only 'the rude vulgar so hastily post in a madnesse / To gaze at'. Thomas Coryate, *Coryats Crudities* (London, 1611), sig. k4^v; STC 5808.

expose as entirely fictitious the alchemical mysteries that lent impetus to its success at court.

Traditionally, *Mercury Vindicated* has been interpreted as a ‘satiric attack directed with equally telling force against fraudulent science and a fraudulent society’.⁴⁵ As Martin Butler maintains, it compounds various contemporary topoi of continued interest to Jonson, including the vexed relationship between art and nature, misguided popular beliefs in alchemical utopias, and a latent disillusionment with political ‘drones’ infesting Whitehall, all of which Jonson examines by means of the various attacks the masque’s titular alchemists perpetrate on Mercury, its eponymous hero and ‘a central component in alchemical work’ (*CWBJ* 4.431).⁴⁶ In what follows I wish to complicate these readings by foregrounding the fact that in its entirety, *Mercury Vindicated* constitutes not only a criticism of the uses and abuses of pseudo-science in Jacobean society, but also a specific response to – and refutation of – the rhetorical artifice that informed the spectacular success of Drebbel’s *perpetuum mobile*. It does so by asserting a qualitative difference between the fraudulent poetics that sustained its artificial motion and the animating power of poetry, seeking to reclaim the politics of absolute kingship for literary invention.

Earlier, we saw that the alchemical principle Thomas Tymme invokes in the *Dialogue* served as a rhetorical ploy designed to coax spectators into suspending disbelief. In *Mercury Vindicated* Jonson argues a similar point, establishing a working parallel between Mercury and the fiery spirit that according to Tymme inspired the machine’s perpetual motion. For while it is true that throughout the masque Mercury personifies the eponymous alchemical metal, as Martin Butler

⁴⁵ Edgar Hill Duncan, ‘The Alchemy in Jonson’s “Mercury Vindicated”’, *Studies in Philology*, 39.4 (1942), 625-37 (p. 637). See also *CWBJ* 4.431.

⁴⁶ Jonson had already addressed these issues in *The Alchemist* (1610), as Martin Butler notes. *CWBJ* 4.431.

notes, here I wish to emphasise that in classical mythology, Mercury was also the god of eloquence and, as Jonson writes in *Discoveries*, ‘the president of language’ (CWBJ 7.561-62.1334-35, 4.431, 434.16n). As I shall maintain throughout, by implicating Drebbel’s perpetual motion in the self-validating linguistic artifice underpinning contemporary alchemical experimentation, Jonson seeks to expose as fraudulent the unsustainable socio-political fictions attaching to its artificial and mechanically extendable alchemical life.

The clearest point of connection between Tymme’s *Dialogue* and *Mercury Vindicated* suggests itself during Mercury’s first entrance. Like the ‘ferie spirit [...] enclused in the Axeltree’ that we saw Tymme describe earlier, Jonson’s Mercury appears on stage ‘*thrusting out his head and afterward his body at the / tunnel of the middle furnace*’ (CWBJ 4.434.16-17).⁴⁷ Finding himself in a similar state of imprisonment, his first and only thought is of escape, imploring ‘One tender-hearted / creature or other, [to] save Mercury and free him!’ (CWBJ 4.434.23-24). And like the elemental essence that animates what Tymme calls the ‘continuell motion or reuolution’ of the machine’s perpetually revolving wheels, he too is made to ‘*run once or twice about the room*’, and complains about being forced to ‘dance the philosophical circle, like an ape through a hoop, or a dog / in a wheel’ (CWBJ 4.434.22, 436.49-50). Thus, notwithstanding the possibility that these allusions may owe as much to the obtuse and admittedly generic nature of Tymme’s description as to any design on the poet’s part, Jonson’s stage directions here seem intended to establish a parallel between his metallic spirit and that of Drebbel’s machine. Following his spectacular entrance from the alchemical furnace, Mercury launches into a virtually uninterrupted diatribe against alchemical rhetoric and its purveyors,

⁴⁷ On Drebbel’s ‘ferie spirit’ as a possible inspiration for Ariel in Shakespeare’s *The Tempest*, see Borrelli, p. 105.

denouncing the likes of ‘Geber, Arnold, Lully, [and] Bombast of Hohenheim’, who by ‘promising mountains for their meat’, or ‘a quantity / of the quintessence’, or ‘a corner o’ the philosopher’s stone’ seek to ‘abuse the curious and credulous nation of metal-men through / the world’ (*CWBJ* 4.435.35-36, 436.54, 56-57, 60, 435.38-39).

Jonson’s suspicion of and disdain for the duplicitous dealings of contemporary alchemists, especially as it relates to his dramatic works, has been the object of sufficient critical attention over the years and requires no further explanation here.⁴⁸ What is significant is that in *Mercury Vindicated* he seeks to implicate Drebbel’s perpetual motion in alchemy’s fraudulent rhetorical project. Mercury implies as much when he adds that as the alchemists’ ‘instrument’ he is bound to turn into whatever ‘they list to style me’, the operative word being ‘style’ – a term conspicuous in contemporary poetic theory (*CWBJ* 4.435.39, 41). As Puttenham explains, ‘Stile is a constant & continuall phrase or tenour of speaking and writing’ and consists ‘of words speeches and sentences together, a certaine contriued forme and qualitie’:

therefore there be that haue called stile, the image of man [*mentis character*] for man is but his minde, and as his minde is tempered and qualified, so are his speeches and language at large.⁴⁹

In *Mercury Vindicated*, the collective mind that is being ‘tempered and qualified’ by means of ‘a certaine contriued forme’ is that of the ‘credulous nation of metal-men

⁴⁸ For a discussion of Jonson’s attitude towards alchemy, especially as it relates to *Mercury Vindicated*, see Ryan Curtis Friesen, *Supernatural Fiction in Early Modern Drama and Culture* (Brighton/Portland/Toronto: Sussex Academic Press, 2010), pp. 168-172, 181-84. Cf. Stanton J. Linden, *Darke Hieroglyphicks: Alchemy in English Literature from Chaucer to the Restoration* (Lexington: The University of Kentucky Press, 1996), ch. 5, esp. pp. 131-53. Linden links *Mercury Vindicated* to a contemporary treatise written by the Polish alchemist Michael Sendivogius and places it in the context of contemporary debates about the relationship of art and nature, whilst arguing for ‘the proximity of the “alchemical imagination” to the literary imagination’, pp. 132-33.

⁴⁹ George Puttenham, *The Arte Of English Poesie* (London, 1589), pp. 123-24; STC 20519.5. Jonson makes analogous comments on style in *Discoveries*, where he famously asserts that ‘Language most shows a man: speak, that I may see thee. It springs out of / the most retired and inmost part of us, and is the image of the parent of it, the / mind. No glass renders a man’s form or likeness so true as his speech. Nay, it is / likened to a man; and as we consider feature and composition in a man, so words // in language’, *CWBJ* 7.567-68.1439-1443.

through / the world', upon the anvil of whose vanities and unrealistic social aspirations the masque's alchemists seek to forge their fraudulent conceits. If in Puttenham style is meant to 'delight and allure as well the mynde as the eare of the hearers with a certaine noueltie and strange maner of conueyance', here novelty and strangeness are enlisted to delight and allure only insofar as that allure can be turned to deception.⁵⁰ Martin Elsky reminds us of Jonson's belief in 'maintain[ing] the proper connection between words and things in a social world that habitually subverts that connection through deceit, flattery, and cunning'.⁵¹ The subterranean world of the masque's laboratory allegorises such a corrupt and corrupting social milieu, Mercury's ordeal emblematising the analogous processes of distillation and corrosion whereby dirt is turned into gold and whereby eloquence is divorced from its proper end, which is truth. Ultimately, then, by encouraging his readers to recognise a parallel between the tortured spirit of language that Mercury represents and the alchemical spirit that sustains the fiction of Drebbel's *perpetuum mobile*, Jonson exposes as inherently fraudulent not only its cultural politics, but the corresponding social and political fictions that the machine seemed to legitimate, as I show next.

In keeping with the alchemical fiction Jonson mocks in *Mercury Vindicated*, James believed that as 'GODS Lieutenants on earth', kings held the power to 'make and vnmake their subiects: [...] of raising and casting downe: [...] to exalt low things, and abase high things, [...] and to cry vp, or downe any of their subiects, as they do their money'.⁵² However, for all this lofty rhetoric the events of 1614 made it clear that James's absolute authority was by no means indisputable. Incensed by his

⁵⁰ Puttenham, p. 144.

⁵¹ Martin Elsky, 'Words, Things and Names: Jonson's Poetry and Philosophical Grammar', in *Classic and Cavalier: Essays on Jonson and the Sons of Ben*, ed. by Claude J. Summers and Ted-Larry Pebworth (Pittsburgh: University of Pittsburgh Press, 1982), pp. 91-104 (pp. 93-94).

⁵² *King James VI and I*, p. 181.

extravagant expenditure, rising debt, and the unrestrained favouritism he displayed towards the Scottish faction at court, the Commons questioned James's absolute prerogative over his right to confiscate his subjects' property and levy taxes, asserting that the king's power was limited by popular consent.⁵³ Amid rumours that he had commissioned members of parliament to manage proceedings in his interest, the lower house further excluded the attorney general from attending sessions and expelled one of the king's privy councillors, Sir Thomas Parry, who had attempted to influence local elections.⁵⁴ This series of events, which led to the so-called Addled Parliament of 1614, highlighted not only the political extravagance or indeed the fictitiousness of James's royal ideology, but also stirred public debate about its corrosive influence on society at large.

In *Mercury Vindicated*, the grotesque transformations wrought by an equally corrupt and corrupting alchemical magic allegorise a similar process of social engineering. Thus, if the scene 'below the stairs' constitutes a refutation of linguistic artifice as far as political ideology is concerned, 'above here', where 'perpetuity of beauty [...], health, riches, honours, a / matter of immortality is nothing', Jonson challenges that ideology's perceived effects on Stuart society (*CWBJ* 4.437.69-71). In order to do so, he tacitly invites comparison between Jacobean claims of 'mak[ing] and vnmak[ing]', of 'cry[ing] vp, or downe any of [his] subiects' and the purportedly self-perpetuating but soulless life of Drebbel's machine, which allows him to criticise the rhetoric of absolute kingship without, however, casting aspersions on the principle of power involved, as I will explain shortly.⁵⁵

⁵³ Sommerville, *Politics and Ideology*, pp. 79, 112, 144.

⁵⁴ J. P. Sommerville, 'Parliament, Privilege, and the Liberties of the Subject', in *Parliament and Liberty from the Reign of Elizabeth to the English Civil War*, ed. by J. H. Hexter (Stanford: Stanford University Press, 1992), pp. 56-84 (p. 63).

⁵⁵ To implicitly shift the blame on Drebbel and men like him allowed Jonson to criticise royal ideology without loss of face on either side.

The lower social strata of the alchemists' victims are represented by poor page boys, scullery maids, and lesser officials, while the 'creatures [...] of rarity and excellence [...] such as there was a / necessity they should be artificial' include a 'grave matron' transformed into a 'young virgin out of her / ashes as fresh as a phoenix', an old courtier who has his soul blown back into him 'with a pair of bellows' in the hopes of recapturing past glories, the 'sinners o'the suburbs' turned 'into fresh gamesters again', and 'all / the cracked maidenheads [...] cast'em into new ingots' (CWBJ 4.439, 105-7, 437.71-78). The professional classes thus rejuvenated by artificial means are represented by 'a fencer i' the mathematics, or the / town's cunning-man, a creature of art too', 'a supposed secretary to the stars', and 'a broker in suits' generated 'out o'the corruption of a lawyer' (CWBJ 4.439.117-18, 440.127-28). What is of particular importance here is that like the subjects James thought to 'make and vnmake', to 'exalt' or 'abase', 'to cry vp, or downe' by the sheer power of royal eloquence, these caricatures too are products of rhetorical artifice, creatures made entirely of 'adder's tongue', 'false conveyance', 'a huge deal of talk', 'tincture of conscience' and 'the faeces of honesty' (CWBJ 4.440.123-26).

Like the alchemical fiction that lent Drebbel's machine a self-perpetuating life in the contemporary imagination, this collective social fantasy derives its artificial life from self-sustaining dreams of wealth and social status cultivated in political rhetoric and already latent in Jacobean society, as the contemporary economic craze for projecting suggests.⁵⁶ The *perpetuum mobile* had made Drebbel's reputation and fortune at court, and it seemed to give the secrets of state that James

⁵⁶ On the Jacobean system of monopolies, see David Harris Sacks, 'Parliament, Liberty, and the Commonweal', in *Parliament and Liberty from the Reign of Elizabeth to the English Civil War*, ed. by J. H. Hexter (Stanford: Stanford University Press, 1992), pp. 85-121 (pp. 96-100). William H. Sherman provides a particularly illuminating case study of the early modern projector in 'Patents and Prisons: Simon Sturtevant and the Death of the Renaissance Inventor', *Huntington Library Quarterly*, 72.2 (2009), 239-56. Jonson ridicules projecting in his 1616 comedy *The Devil is an Ass*, which includes multiple hare-brained schemes for the recovery of flooded land, ladies' cosmetics, toothpicks, and forks. CWBJ 4.511.26, 553.49-50, 565.36, 594.17-20.

affected a perpetual and self-perpetuating life in the contemporary imagination. A similar mechanism sustains the alchemists in *Mercury Vindicated*: not unlike Drebbel, who harnessed genuine scientific achievement to the more lucrative project of science or techno fiction, they specialise in the sale of alluring conceits and persuasive fantasies.⁵⁷ Throughout the masque, then, satire of alchemical and mechanical magic allegorises a much deeper insight into the workings of Jacobean society, where, as Jonson suggests by analogy with Drebbel's perpetual motion machine, power – over individual subjects and over society as a whole – rests with the authority that controls not only the public imagination, but also its discourse.

It is only in the main masque that Jonson finally moves to reclaim that power for poetry. Here, social commentary gives way to conventional panegyric as eloquence is restored to its original purpose. Mercury appears 'before the majesty of this light, whose Mercury henceforth I profess to be, and never again the philosophers'', and the dystopia of 'creatures more imperfect than / the very flies and insects that are [Nature's] trespasses and scapes' makes way for her 'absolute features', culminating in a recuperative vision of 'natural procreation [that] serves as a metaphor for royal power and its reflection in the poet's creation', as Jonathan Goldberg writes (*CWBJ* 4.440.142-43, 139-40, 145).⁵⁸ If in the antimasque Drebbel's perpetual motion machine had inspired an unsustainable social fiction related to an equally unsustainable political ideology, the main masque resituates the absolute power James arrogated to himself within a poetically engineered vision of cosmic and social harmony.

⁵⁷ The inverse of what has been described as 'modding': the mining or 'modifying [of] science fiction for usability by technoscience'. Colin Milburn, 'Modifiable Futures: Science Fiction at the Bench', *Isis*, 101.3 (2010), 560-69 (pp. 565-66).

⁵⁸ Jonathan Goldberg, *James I and the Politics of Literature: Jonson, Shakespeare, Donne, and Their Contemporaries* (Baltimore/London: The Johns Hopkins University Press, 1983), p. 61.

As we saw earlier, much like James's absolutist ideology, the success of the *perpetuum mobile* depended on the inventor's ability to persuade his audiences of its probity, which he accomplished by violating the basic rules not only of logic and of rhetoric, but of nature: aiming for spectacular effect, he declined to reveal the cause of its motion, and even pretended to a supernatural explanation. By means of what I believe to be a final allusion to Drebbel's machine, Jonson symbolically restores the broken chain of causality, thereby asserting a qualitative difference between the fraudulent poetics that sustained its artificial motion and the life-enhancing power of literary invention. As Prometheus and the Chorus point out, 'Nature is motion's mother [...] – / The spring whence order flows, that all directs, / And knits the causes with th'effects' (CWBJ 4.442.186-88). The restoration of the natural order precipitates a restoration of faith in the greater cosmic order that ordains and legitimates royal power. The key terms here are 'nature', 'motion', 'mother', and 'spring', all of which suggest an organic relationship between the court – transformed from the alchemists' laboratory into 'a glorious bower' of nature – and the courtiers (CWBJ 4.440.146). If Drebbel's *perpetuum mobile* depended upon the alchemical conceit of a fiery spirit, here, it is the warmth of natural affection between 'the creatures of the sun', their maker (James), and each other that fires the engines of political ideology (CWBJ 4.441.153). In the antimasque, we saw Jonson wrest the alchemical fiction of Drebbel's perpetual motion to a critique of political artifice and its corrosive influence upon Jacobean society. Here, he aligns the 'absolute features' of James's rule with the natural order of the world, thus elegantly resolving 'the problem of how to evoke courtly compliment from materials that were traditionally allied more to satire than the idealizing mode of the masque', as Stanton Linden

notes (*CWBJ* 4.440.145).⁵⁹ The machine, Jonson seems to imply, perpetuates a fiction of royal power that is ultimately limited by the totalising claims of its own conceit. By appealing to the imagination, his poetry, by contrast, can enhance and rejuvenate not only the court for which it was written, as Nature indicates when she sings ‘How young and fresh am I tonight’, but, importantly, it can reinvent that court and its ruler in times of political crisis, thereby giving it a new lease of life (*CWBJ* 4.441.149).

JONSON AND THE SOVEREIGNTY OF VISION: REINVENTING DISCOVERY IN *NEWS FROM THE NEW WORLD*

If *Mercury Vindicated* reflects a battle for representational control over the political cosmos of early Stuart England, *News from the New World* (1620) relates this conflict to larger cultural shifts in the early seventeenth century precipitated by the advent of the telescope on the one hand, and by the startling astronomical discoveries it prompted on the other. As we will discover below, by extending the natural range of human visual perception the telescope seemed to give new valence to older theories of the sovereignty of sight, especially insofar as it seemed to symbolically enhance the monarch’s power. Galilean astronomy, meanwhile, called into question inherited assumptions about the universe, casually eroding those age-old metaphorical conventions derived from Aristotelian and Ptolemaic cosmologies that the early modern poetic imagination held sacred.⁶⁰ Together, the telescope and the new astronomy not only generated considerable epistemological and ontological uncertainty, but they also plunged the enterprise of (courtly) poetry as Jonson

⁵⁹ Linden, p. 151.

⁶⁰ Laura Fermi and Gilberto Bernardini, *Galileo and the Scientific Revolution* (Mineola, NY: Dover Publications, 2003), p. 58. Fermi and Bernardini argue: ‘The tremendous blow that Galileo delivered to a well-rooted way of thinking, this opening of new vistas in a universe that had been thought unchangeable, is a greater contribution to astronomy than his discoveries’.

understood it into crisis. In *News from the New World*, he exploits and transforms this uncertainty to assert a new hierarchy of the senses predicated upon a qualitative difference between (mechanically enhanced) sight and poetic vision. As we will see Jonson intimate throughout, if the telescope could discover new natural phenomena, perhaps even wrest them to political gain, poetry could invent entirely new worlds and thus intervene in the political cosmos in ways unimagined even by Galileo.

In early modern Europe, sight – and the ways in which it could be enhanced – mattered. As Stuart Clark explains, in the traditional hierarchy of the human senses, it ranked first as the noblest and purest of the five. A ‘sovereign sense’ in the physiological and in the political sense of the word, sight lent itself particularly well to an early modern ‘politics of vision’ that measured the monarch’s power to govern his subjects by the scope of his ‘sovereign gaze’.⁶¹ The powerful new telescopes that proliferated in the first decades of the seventeenth century promised to extend the range of that gaze, and thereby to raise its wielder to a state of quasi-divinity. In *The Starry Messenger* (1610), the slender volume of astronomical observations that introduced an incredulous European readership to new worlds previously hidden away among lunar craters and in the vast depths of interstellar space, Galileo had demonstrated how new visual technologies might accomplish this. Now widely credited with making those technical adjustments to previous versions of the telescope that would transform it into a ‘discovery machine [to] revolutionize the practice of astronomy in the seventeenth century’, he famously proposed to name the newly discovered satellites of Jupiter the ‘Medicean Stars’ after Cosimo II de Medici and his three brothers, alleging that it was ‘the Maker of the Stars himself’ who ‘admonished [him] to call these new planets by the illustrious name of Your

⁶¹ Stuart Clark, *Vanities of the Eye: Vision in Early Modern European Culture* (Oxford: Oxford University Press, 2007), pp. 12-13.

Highness'.⁶² Jupiter had played a foundational role in the political mythology of the Medici family since its rise to power in the early sixteenth century, as Mario Biagoli notes.⁶³ By making the Medicean Stars' orbit around Jupiter visible to the naked eye, proving beyond doubt that the visually observable phenomena of the universe corresponded with the political constellations of Medici Florence, Galileo's telescope extended what Clark calls the early modern ruler's 'visual kingdom' to the cosmic level, affording Cosimo a sovereign place among 'the illustrious order of the wandering stars'.⁶⁴

In England, Cornelis Drebbel – or 'Cornelius Dribble', as Jonson was to disparage him years later in *News from the New World* – promised to achieve something similar for James by offering to mechanically enhance the king's 'sovereign gaze' and, thereby, the range of his authority (*CWBJ* 5.434.80). Speculating upon the notoriety the telescope had gained following the publication of *The Starry Messenger*, and undoubtedly seeking to emulate Galileo's talent for turning science into a lucrative business, as early as 1613 Drebbel proposed to construct

an instrument by which letters can be read at a distance of an English mile, and I do not doubt that your Majesty, I hope, will support me with money, so that I may be in a position to construct something so large that by this it will be possible to read letters at a distance of about 5, 6, or 7 miles, the letters being no bigger than they usually need be. With the aid of this instrument your Majesty will be able to see what is placed 8 or 10 miles away *as perfectly as if it were in the same room as your Majesty*.⁶⁵

⁶² Toby E. Huff, *Intellectual Curiosity and the Scientific Revolution: A Global Perspective* (Cambridge: Cambridge University Press, 2011), pp. 36, 46-7. Galileo Galilei, *Sidereus Nuncius, or The Sidereal Messenger*, transl. by Albert Van Helden (Chicago/London: The University of Chicago Press, 1989), pp. 5, 31-32. Any quotations from Van Helden's introduction and critical apparatus will be footnoted as Van Helden, followed by the relevant page number. On the issues surrounding the translation of *Sidereus Nuncius*, see Van Helden, pp. ix-xi, 20. I shall refer to the treatise by its most commonly used title, *The Starry Messenger*.

⁶³ Biagoli, pp. 232-35.

⁶⁴ Clark, p. 12. Galilei, p. 31.

⁶⁵ Quoted in Harris, p. 146, my emphasis.

One important point to be made about this remarkable passage relates to the ‘exceptional pleasure’ that Drebbel promised James the proposed ‘instrument’ would afford him.⁶⁶ This pleasure seems to reside in the act of looking itself, rather than that which is being looked at: it hardly seems to matter which ‘letters’ James will be able to decipher over a distance of ten miles; instead, what Drebbel emphasises is the sheer wonder that this possibility summons, as his revelry in ever increasing distances – from one to ten English miles – suggests.

More pertinent still is his extraordinary claim that given sufficient funds, a large and powerful telescope will enable James to perceive even the most distant object ‘as perfectly as if it were in the same room’. Not only does he thereby engineer a relationship between the amount of money granted and the extent to which the royal field of view can be mechanically enhanced; he also implies that if royal authority depended upon the kind of surveillance previously only attainable by means of an itinerant court, to obliterate the need for the monarch’s physical presence was to increase royal power beyond measure.⁶⁷ The underlying assumption seems to be that, equipped with the latest in technology, rather than having to ride out in order to meet his subjects, the king would remain motionless within his own chambers, exercising the kind of intangible yet manifest power comparable only to that of an omniscient God – or his divinely ordained deputy on earth. As we saw earlier, it was this kind of power that James arrogated to himself, and that Drebbel had invoked once before when he presented the king with his *perpetuum mobile*.

In the theatre, too, the telescope proved of considerable entertainment value, as Thomas Tomkis’s (c. 1580-c. 1615) astronomical satire *Albumazar* indicates.⁶⁸ It was first performed for James by members of Trinity College in 1615, and follows

⁶⁶ Ibid.

⁶⁷ Clark, p. 13.

⁶⁸ S. P. Cerasano, ‘Tomkis [Tomkys], Thomas (b. c. 1580, d. in or after 1615)’, *ODNB*.

the eponymous protagonist's various exploits as a maker of (mostly fraudulent) astrological and mechanical instruments. These include a 'perspicill' or magnifying glass not unlike the 'Mathematician's perspicil' we will see Jonson's Herald in *News from the New World* dismiss as a 'common' and untrustworthy source of information, little more than 'philosopher's fantasy' (CWBJ 5.435.83, 434.74, 435.82).⁶⁹ Describing his experience of looking through this 'perspicill', Pandolfo, one of Albumazar's particularly gullible victims, reports 'Wonders, wonders':

I see as in a Land-shappe
An honorable throng of noble persons,
As cleare as I were vnder the same rooffe.
[...] who, or what they be, I know not.⁷⁰

This brief scene illuminates the telescope's remarkable dramatic potential in several ways. Its first and obvious implication in this respect attaches to the word 'Land-shappe'. Used in contemporary theatre to describe a painted background like the 'Landtschape' of 'small woods' Jonson employed in his 1605 *Masque of Blackness*, it suggests that somehow the inner workings of the telescope have turned into a space for theatrical performance, indeed that to look through it is equal to or even surpasses in wonder and attraction the act of attending a regular performance (CWBJ 2.512.16).⁷¹ Thus, Pandolfo is led to assume that the real audience watching his antics on stage, which Albumazar's assistant correctly identifies as the court at

⁶⁹ Thomas Tomkis, *Albvmazar. A Comedy presented before the Kings Maiestie at Cambridge, the ninth of March, 1614. By the Gentlemen of Trinitie Colledge* (London, 1615), sig. B4^r; STC 24100. Albumazar markets his looking glass as 'An engine to catch starres, / A mase t'arrest such Planets as haue lurk't / Foure thousand yeares vnder protection / Of Jupiter and Sol' – a clear allusion to Galileo's discovery of the satellites of Jupiter, sigs B3^v-B4^r. 'Perspicil', from the Latin *perspicillum*, is the telescope's first moniker, a term that features on the title page of *The Starry Messenger* and that Van Helden renders as 'spyglass'. The word 'telescope' appeared in (Italian) around 1611. Van Helden, pp. 26-27 2n.

⁷⁰ Tomkis, sig. B4^r.

⁷¹ *OED Online*, 'landscape, n.', 1.a.: 'A picture representing natural inland scenery, as distinguished from a sea picture, a portrait, etc.'. 'Landtschape', a term imported from the Dutch, is the spelling in the MS and quarto texts of the masque, CWBJ 2.512.16n.

Cambridge come to witness the performance of the play, forms part of a theatrical display set up for his entertainment.⁷²

Of course, *Albumazar* is a satire, and much of the comedy – as well as Albumazar’s success – derives from the fact that the rather simple Pandolfo fails to grasp both the telescope’s purpose and how it works. His confusion – exquisitely funny though it may be – reflects on the very question that divided the telescope’s supporters and critics throughout the early 1610s: did it show real phenomena, or were these phenomena somehow produced within the instrument? Was it really capable of making visible the invisible, or did it deceive the human eye by generating a false version of reality? I will return to these questions later on in this section, where we will see Jonson exploit the epistemological uncertainty that the instrument generated to assert the primacy of poetic vision over visual perception. For now, it is sufficient to note that by 1615, as Tomkis’s play suggests, visual perception, and the very specific act of mechanically enhanced looking facilitated by the telescope, had become a suitable subject for literary creation and, more importantly, for courtly entertainment.

The telescope, then, achieved three things of potential concern to Jonson. Firstly, it seemed to privilege the act of looking over the act of reading, generating its own dramatic and unmistakably theatrical potential. Secondly, it seemed to give rise to an entirely new poetics of power, located behind the lens of the mechanical instrument. And thirdly, according to Galileo’s preface to *The Starry Messenger*, in doing so it effectively seemed to proclaim the death of those ‘monuments’ both

⁷² The Italian artist, architect, and sculptor Gianlorenzo Bernini (1598-1680) produced a famous visual effect of this kind for a theatrical display involving two theatres – and a mock audience – facing each other, which he put on in his home in Rome in 1637. See Robert Farmer and William Kleb, ‘The Theatrical Activity of Gianlorenzo Bernini’, *Educational Theatre Journal*, 25.1 (1973), 5-14 (pp. 7-9); cited in Koen Vermeir, ‘The Magic of the Magic Lantern (1660-1700): On Analogical Demonstration and the Visualization of the Invisible’, *The British Journal for the History of Science*, 38.2 (2005), 127-59 (p. 131).

marble and literary that had, until then, sustained both ‘Men-making poets, and those well-made men, / Whose strife it was to have the happiest pen // Renown them to an after-life’ (*CWBJ* 3.318-19.345-47).⁷³ Richard Helgerson explains that Jonson saw himself very much in the tradition of that earlier generation of gentleman writers, including George Puttenham, Philip Sidney, and William Webbe, who had sought to confer upon the word ‘poet’ a monopoly on truth, ‘equat[ing] it with “priest,” “prophet,” “lawmaker,” “historiographer,” “astronomer,” “philosopher,” and “musician,” and adorned it with adjectives like “good,” “right,” and “true”’, believing that the raptured poetic mind alone ‘utters somewhat above a mortal mouth’ (*CWBJ* 7.1719-20).⁷⁴ As both *The Starry Messenger* and Drebbel’s letter to James indicate, the telescope increasingly challenged the cultural primacy of poetic vision, especially as it related to the figuring of royal power. And it did so at a particularly sensitive time. For as we will see next, in an analogous development the new astronomical observations the instrument had given rise to cast into serious doubt traditional cosmologies and those metaphorical conventions that had sustained both them and poetic discourse into the seventeenth century.

Galileo’s *Starry Messenger* not only prompted its very own literary genre of both fictional and non-fictional moon voyages, including Johannes Kepler’s *Dissertatio cum Nuncio Sidereo* (1610), his posthumously published *Somnium* (1609, 1634), as well as Francis Godwin’s *Man in the Moone* and John Wilkins’s *The Discovery of a World in the Moone* (both 1638).⁷⁵ More traumatically, by

⁷³ Galilei, p. 29.

⁷⁴ Richard Helgerson, *Self-Crowned Laureates: Spenser, Jonson, Milton and the Literary System* (Berkeley/Los Angeles/London: University of California Press, 1983), p. 3.

⁷⁵ See also William P. Sheehan and Thomas A. Dobbins, *Epic Moon: A History of Lunar Exploration in the Age of the Telescope* (Richmond, VA: Willmann-Bell, 2001), p. 10. Galileo was not the first to train his telescope on the moon. As early as 1609, the English astronomer, ethnographer, and mathematician Thomas Harriot (1560-1621) had produced telescope-aided sketches of the moon’s surface – the first recorded attempt at selenography. Unlike Galileo, he did not publish his findings. Huff, pp. 40-41. Sheehan and Dobbins, p. 4.

demonstrating that the surface of the moon possessed irregular features like mountains, valleys, plains, and craters, Galileo's observations also revealed as erroneous received notions of the perfection, harmony, and unchanging nature of the heavenly bodies.⁷⁶ The satellites of Jupiter, meanwhile, proved that other planets besides the earth featured satellites, thus rendering null and void traditional claims of its unique status among the host of observable stellar objects.⁷⁷

But *The Starry Messenger* did more than to raise questions about time-honoured Aristotelian cosmologies. In doing so, it also presented a threat to the early modern poetic imagination, which had, until then, thrived upon corresponding metaphors of celestial perfection. As Margaret Healy writes, traditional Renaissance cosmologies combined classical and Christian doctrine 'to produce a comforting world picture in which God, man, angels, animals, planets and elements all had their divinely allotted place [...], with man at the centre of the universe'.⁷⁸ In seeking to substitute the dispassionate 'language of mathematics', with its characters of 'triangles, circles, and other geometric figures' for this 'poetically rich and evocative earth-centred worldview', Galilean astronomy aimed to sweep aside the 'dark labyrinth' of interrelating elements (fire, air, water, earth), humours (yellow bile, black bile, phlegm, blood), and all the mystical paraphernalia of an earlier age that had fed the metaphorical conventions of poetic discourse.⁷⁹ As John Donne

⁷⁶ Van Helden, pp. 10-11. The appearance of a supernova and a comet in 1572 and 1577 respectively had already dealt important blows to classical theories of celestial perfection.

⁷⁷ As Van Helden notes, neither the telescope itself nor Galileo's discoveries went undisputed. But by 1611 even the Catholic Church had ratified Galileo's findings, '[certifying] the spyglass a genuine scientific instrument'. Van Helden, pp. 104-5, 109, 112.

⁷⁸ Margaret Healy, 'Alchemy, Magic and the Sciences', in *Ben Jonson in Context*, ed. by Julie Sanders (Cambridge: Cambridge University Press, 2010), pp. 322-29 (p. 323).

⁷⁹ *Discoveries and Opinions of Galileo*, transl. by Stillman Drake (New York: Doubleday Anchor Books, 1957), pp. 237-38. Healy, p. 323.

memorably put it in *The First Anniversary* (1612), lamenting a lost world of epistemological and linguistic certainty: ‘‘Tis all in pieces, all coherence gone’.⁸⁰

Meanwhile, it was empirical observation and fact-based analysis that filled the void, posing a considerable challenge to poetic endeavours like the royal masque, which sought to portray things not as they were but as they ought to be.⁸¹ By promising to ‘[unfold] great and very wonderful sights and [to display] [these] to the gaze of everyone’, *The Starry Messenger* seemed to resolve ancient and ‘wordy arguments’ about the nature of the cosmos, revealing the Milky Way to be ‘nothing else than a congeries of innumerable stars distributed in clusters’.⁸² And, perhaps most importantly, it suggested that the poetry of nature far surpassed that of the literary imagination. In Galileo’s own, seemingly paradoxical words, the telescope opened the eyes of earth-bound spectators to a wonderful ‘dance of the stars’ – a universe filled to the brim with stellar phenomena and new planets ‘never seen from the beginning of the world right up to our day’, in beauty and numbers ‘truly unfathomable’.⁸³ As a man attuned to the changeable currents of courtly fashion and, moreover, as a poet who claimed an artistic monopoly on public spectacle and moral truth, Jonson must have pondered with considerable concern the fact that a reality seemingly stranger and more wonderful than the most ingenious literary fiction could be arrived at by the simplest mechanical means, by ‘a thing no bigger than a flute-case’ (fig 9), as he notes in *News from the New World* (CWB 5.434.70). This must

⁸⁰ John Donne, *The First Anniversary. An Anatomie of the World* (London, 1612), p. 20; STC 7023.

⁸¹ John Henry, *The Scientific Revolution and the Origins of Modern Science*, 3rd edn (Basingstoke/New York: Palgrave Macmillan, 2008), p. 34. Henry attributes this shift to the willingness of wealthy patrons to support individual mathematicians, a more refined understanding of human anatomy and physiology, new discoveries in natural history following increased contact with the New World, the development of more accurate scientific instruments, and the rise of experimental chemistry, pp. 38, 40, 43–44, 46–47.

⁸² Galilei, pp. 26, 62. On *The Starry Messenger* as a ‘textual telescope’, see Elizabeth Spiller, *Science, Reading, and Renaissance Literature: The Art of Making Knowledge, 1580–1670* (Cambridge: Cambridge University Press, 2004), p. 107.

⁸³ Galilei, pp. 57, 64, 62.

have seemed all the more alarming given the excitement with which *The Starry Messenger* itself and the news that Galileo ‘hath first overthrown all former

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astronomy [...] and next all astrology’ seems to have been received at the English court.⁸⁴

News from the New World responds to the twin challenges of the telescope and of the new astronomy with textual satire, thereby seeking to reclaim the notion of discovery for literary invention. In what follows, I propose to read *The Starry Messenger* and Jonson’s masque side by side, arguing that the latter accomplishes much more than simply to juxtapose scientific discovery with ‘poetry’s ability to create new realms’ (*CWBJ* 5.426-27). Rather, by treating Galileo’s (and Drebbel’s) ‘perplexive glasses’ as a synecdoche for the much broader concerns that the new astronomy raised, *News from the New World* exploits contemporary epistemological uncertainties to reinvent the act of looking along discursive – that is, socially constructed and rhetorically mediated – lines (*CWBJ* 5.434.74).⁸⁵ In doing so, it

⁸⁴ Donaldson, p. 384.

⁸⁵ In *Britain’s Burse*, Jonson had previously spoken of the telescope as an expensive but frivolous toy. Donaldson, p. 60.

illuminates an imaginative transaction between early modern mechanical and literary cultures that strikes me as particularly exciting because it seems to reflect on the literary, philosophical, and scientific processes that would lead the later seventeenth century to recognise language as a major factor in the creation of (cultural) perception.⁸⁶ None of this is to imply that Jonson was a technophobe or adverse to contemporary scientific inquiry. We have already seen that he was not. As I argue here, both his antagonistic response to the telescope and his parody of the Galilean universe reflect a much broader concern with changing epistemologies at a time when the rise of mechanical spectacle in the theatre, in the laboratory, and at court shone a critical and often unfavourable light upon received notions about the role of literature in the acquisition of knowledge.⁸⁷

News from the New World is not entirely without self-irony or the occasional moment of self-deprecating humour on Jonson's part, but in it he nevertheless makes it clear that the language of his universe – and of the courtly world it seeks both to emulate and to educate – is poetic, and that its source lies in the exuberant poetic imagination. Much of the satire is social in nature, but as I argue here, it also harks back in some detail not only to *The Starry Messenger*, but also to subsequent Galilean discoveries (for example of comets) that followed its publication in the 1610s.⁸⁸ Throughout the antimasque, the various features of lunar topography that

⁸⁶ Clark, p. 343.

⁸⁷ During a performance of *Pleasure Reconciled to Virtue* in 1618, Jonson was forced to witness the royal appetite for visual display at first hand when James angrily interrupted the performance to demand more dancing and less declaiming, as Orazio Busino, the chaplain to the Venetian embassy in London, reports. *Ben Jonson*, ed. by C. H. Herford and Percy and Evelyn Simpson, 11 vols (Oxford: Clarendon Press, 1925-52), x, p. 583. Hereafter abbreviated to H&S followed by volume and page number.

⁸⁸ Observations on Saturn and the phases of Venus (both 1610), the *History and Demonstrations about Sunspots and their Properties* (1613), and the *Discourse on the Comets* (1619) followed *The Starry Messenger* in quick succession. Combined, they not only offered evidence of the superiority of empirical observation over speculative reasoning, but also of the Copernican hypothesis.

Galileo had mapped, and which could be seen to scar the moon's surface – including craters, mountains, as well as 'the darker part, [which] like some cloud, stains [the

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moon's] very face and renders it spotted' (*fig 10*) – give rise to corresponding human imperfections in Jonson's imagined lunar (or lunatic) world.⁸⁹ Among the 'fantastical creatures' to be found there are 'lovers as fantastic as ours' who 'are presently hung up by the heels like meteors', 'moon-calves' or pet fools, knights, squires, and ladies, who, quite ingeniously – or quite rudely, depending on one's interpretation – 'go only with wind' (*CWBJ* 5.438.173, 439.177, 183, 191, 196-97, 199-200). There are 'wells' and 'physical waters', spas, and, should funds grow thin, mists to conceal 'a man that / owes money there' (*CWBJ* 5.440.214-16, 221-22). In fact, Herald 2 announces that 'they do all in clouds there': walk, sit, lie 'ride and tumble', 'tak[e] the fresh open air, and then covert when they please, as in our Hyde Park' – a possible allusion to the latest in contemporary stage machinery, so-called cloud

⁸⁹ Galilei, p. 40.

machines upon which masquers could spectacularly ascend or descend during performance (*CWBJ* 5.440.205-6, 439.202-3).⁹⁰

It is tempting to read an echo of Galileo's cloud simile in Jonson's choice of imagery for the various human follies and courtly frivolities he mocks throughout, or to detect an allusion to the lunar spots Galileo describes so vividly in *The Starry Messenger* in the masque's 'broken islands' – to be reached only by boats made from clouds and where 'Epicenes' cavort in moonlight (*CWBJ* 5.440.217, 224).⁹¹ But while this one parallel between the two texts could easily be dismissed as incidental, other points of contact between the two texts seem to corroborate the notion that in *News from the New World* Jonson seeks not only to hold up a mirror to human lunacy, but also to encompass a thorough refutation of the disconcertingly changeable and unstable universe that the telescope had revealed to the human eye.

A particularly clever instance of Jonsonian invective to this effect pertains to the lunar phenomenon known as earthshine, a reflection of light from the earth that Galileo was the first to explain correctly, and which he describes as a 'certain thin, faint periphery that is seen to outline the circle of the dark part (that is, the part turned away from the Sun)'.⁹² Jonson's lunar world is bathed in a similarly ghostly light, which emanates from the local chapter of the 'brethren of the Rosy Cross', who, according to Jonson, 'have their college within a mile / o'the moon, a castle i'th' air that runs upon wheels with a winged lantern' (*CWBJ* 5.438.170-71).⁹³

Seekers of forbidden knowledge and professors of magic, the secret fraternity of the

⁹⁰ For a detailed description of the various stage machines devised for the Jacobean and Caroline masque by Inigo Jones, see Lily B. Campbell, *Scenes and Machines on the English Stage during the Renaissance: A Classical Revival* (New York: Barnes and Noble, 1960), pp. 161-75.

⁹¹ A blatant case of self-advertisement. Jonson published his 1609 comedy, *Epicæne*, in quarto in 1620.

⁹² Galilei, pp. 53-56.

⁹³ Theophilus Schweighardt's *Speculum Sophicum Rhodo-Stauroticum* (1618) depicts such a castle in the air, a convoluted visual rendering of the brethren's foundational legends, core beliefs, and missionary statement. Herford and Simpson draw attention to Jonson's knowledge of the text at H&S X.670.

Rosy Cross dreamed of political, social, and spiritual reform, even of conquering death, combining what Frances Yates has called ‘the Renaissance Hermetic-Cabalist tradition’ with alchemy in order to effect ‘a general reformation of the world’ by means of ‘an advancement of learning’ and ‘an illumination of a religious and spiritual nature’.⁹⁴ Traceable to two manifestos published in 1614 and 1615, it is now regarded as a predominantly textual movement that generated not only instantaneous ridicule but also, and more damagingly, accusations of black magic and devil worship.⁹⁵ Thus, by implicating the supposedly rational and empirically verifiable findings of Galilean astronomy in the utopian and somewhat ludicrous project of Rosicrucian idealism, Jonson clearly seeks to detract from the universal standard of truth that the telescope, and the new science of astronomy it represented, aspired to.

Jonson’s untraced epigraph to the masque, ‘*Nascitur è tenebris: et se sibi vindicate orbis*’, which loosely translates to ‘a world is born out of darkness and sets itself free’, offers further ironic comment on the intellectual ambitions of the new astronomy (CWB 5.431.2 and 2n). In *The Starry Messenger*, Galileo is at great pains to stress the demystifying qualities of the telescope, especially its ability to show stellar phenomena in their proper proportions, which would allow the dark world of the moon – and of the entire universe – to set itself free from centuries of misrepresentation and misunderstanding. For instance, he notes that if to the naked eye, stars appear ‘surrounded by a certain brightness and crowned by twinkling rays, especially as night advances’, the telescope’s magnifying lenses deprive them of their ‘borrowed and accidental brightness’ and ‘enlarg[e] their simple globes’,

⁹⁴ Frances A. Yates, *The Rosicrucian Enlightenment* (London/Boston: Routledge & Kegan Paul, 1972), pp. xi, 57, 45. Marie Roberts, *Gothic Immortals: The Fiction of the Brotherhood of the Rosy Cross* (London/New York: Routledge, 1990), pp. 2-3.

⁹⁵ *Ibid.*, p. 10. On contemporary reactions to the Rosicrucian manifestos both favourable and hostile, see Christopher McIntosh, *The Rosy Cross Unveiled: The History, Mythology and Rituals of an Occult Order*, with a foreword by Colin Wilson (Wellingborough, Northamptonshire: The Aquarian Press, 1980), ch. 4.

thereby revealing ‘stars of the fifth or sixth magnitude [as] seen through the spyglass [to be] of the first magnitude’.⁹⁶ Ultimately, this would lead to the substitution of a three-dimensional model of space in which objects related to each other as well as to the earthly spectator for a two-dimensional model of starry spheres ordered according to an unchanging philosophical hierarchy. But in doing so, rather than to set the world free, as we will see Jonson claim shortly, Galilean astronomy seemed to turn it into a barren wasteland without mystery or significance by eliminating ‘all those beams’ of celestial wisdom – Galileo’s ‘twinkling rays’ – that poets including Jonson habitually ascribed to stellar phenomena and their earthly analogues, great princes and rulers of men like James (*CWBJ* 5.443.274).

All of this throws into stark relief the considerable discrepancy between Galileo’s own notions of what the telescope could and had achieved, and more sceptical lay perceptions of the new technology, including Jonson’s. But more to the point, the masque also reflects – and capitalises upon – contemporary epistemological debates precipitated by the collapse of what Stuart Clark has called ‘the “representational” model of vision’ inherited from Aristotle, which postulated an absolute correspondence of human visual perception and objective reality.⁹⁷ In revealing things previously invisible to the naked eye the telescope seemed to further undermine the Aristotelian hypothesis, exacerbated by the fact that in early versions of the instrument optical imperfections like ‘chromatic aberration’ generated ill-defined images especially of very bright stars, prompting anxious enquiries as to whether one could be certain ‘that the instrument did not deceive [...] and the phenomena really did exist in the heavens’. As Van Helden reminds us, ‘not only was there no optical theory that could demonstrate that the instrument did not

⁹⁶ Galilei, pp. 57-58.

⁹⁷ Clark, p. 20.

deceive the senses, it was not even accepted that optical theory could have much to do with reality'.⁹⁸ Hence Pandolfo's comical floundering in *Albumazar*, where the telescope irremediably blurs the boundaries between performance and reality, between fact and fiction, leaving him helplessly uncertain both of himself and of the object of his telescopic observations. In short, if it seemed to disenchant the world by revealing a truthful picture of its phenomena and their causes, the telescope also plunged it into profound epistemological – and moral – crisis, leaving the poets to pick up the pieces 'after a world of these curious uncertainties', as Jonson asserts in *News from the New World* (CWBJ 5.435.87).

In concluding this section, I will demonstrate how Jonson reclaims the business of discovery that had become associated with telescope-aided observation for literary invention. Playing on the double meaning of discovery (and invention) as related acts of uncovering and re-making, he concludes that no 'forced way', neither 'philosopher's fantasy' nor 'Mathematician's perspicil', can generate 'the neat and clean power of poetry' that is 'The mistress of all discovery' – 'forced' here standing in for the artificially created and mechanically enhanced sights afforded by the telescope, as I want to suggest (CWBJ 5.435.82-86). Astronomy may be able to uncover new phenomena, to render the moon 'as great as a drumhead twenty times, and [bring] it / within the length of this room', as one of the antimasque characters suggests (CWBJ 5.434.72-73). But for all that, Jonson goes on to claim in the main masque, it is poetry alone that can re-make these phenomena into new and relevant perspectives on sublunary life by imbuing factual reality with a moral dimension that the telescope could not furnish.

⁹⁸ Van Helden, pp. 13-14, 88-89.

Borne up ‘upon the wings of his muse’, the Jonsonian poet thus prevails upon the heavens to descend to earth, being capable within the compass of a mere thought of inverting the empirically observable, mathematically calculable order of the Galilean universe and thereby intervening in the natural and political cosmos:

Now look and see in yonder throne
How all those beams are cast from one.
This is that orb so bright,
Has kept your wonder so awake,
Whence you as from a mirror take
The sun’s reflected light.⁹⁹

After his subtle and finely nuanced parody of *The Starry Messenger* in the antimasque, Jonson’s rather crude attempt to revive the tried and trusted poetic conceit of casting James as a personification of ‘that orb so bright’ – the sun – may strike one as rather feeble. But it nevertheless accomplishes a remarkable re-invention of the (courtly) cosmos: as we saw earlier, Galileo could and did claim that his discovery of the Medicean Stars’ orbit around Jupiter had confirmed by way of visually observable phenomena the mythical and divinely inspired destiny the Medici family had laid claim to from its beginnings.¹⁰⁰ No one, not even the ever resourceful Cornelis Drebbel, had thought to inscribe James’s name on the heavens before.

Here, Jonson responds by plucking the stars out of the sky, suggesting that if Galileo could discover new worlds and new kingdoms among the stars, he could invent an entirely new universe on earth – a universe that derived its meaning from and revolved exclusively around the king, ‘Whence you as from a mirror take / The sun’s reflected light’. Galileo – and indeed Drebbel – had suggested that power resided in the sovereign gaze of the ruler. The further that gaze could be extended by instrumental means, the greater his dominion. Jonson, by contrast, rightly perceives that it did not matter what the king saw, but how he was perceived by those around

⁹⁹ *CWBJ* 5.437.149, 443.273-78.

¹⁰⁰ Biagoli, pp. 232, 244-45.

him.¹⁰¹ In *News from the New World*, he turns this insight into an extraordinary valorisation of literary invention by wresting the existing conventions of the Stuart masque to the purpose of creating a new hierarchy of the senses capable of reordering the courtly universe along strictly poetic lines, as I argue here.

Writing about the spatial organisation of the Jacobean court theatre, Stephen Orgel reminds us that, typically, the king would witness the performance seated on the sole (and usually elevated) spot in the auditorium ‘from which the illusion achieves its fullest effect’, with his courtiers ranged about him according to rank, status, and the favour they enjoyed.¹⁰² The audience came specifically ‘to see the king’; therefore, given the strictly hierarchical organisation of the performance space, ‘their experience of the drama will be – as the terms *auditory* and *audience* suggest – to hear it’.¹⁰³ Jonson amplifies this effect by transforming the deferential act of looking at the elevated figure of the king required by courtly etiquette into a poetically heightened and rhetorically mediated vision of Jacobean kingship, taking the audience on a Platonic journey from physical blindness to metaphysical insight that far surpasses visual perception in wonder and ‘pure harmony’ (*CWBJ* 5.443.284). Thus, in the First Song of the masque proper, the Volatees’ experience as they descend from their starry spheres to pay homage to the sun (James) is one of ‘brightness’ above all, which seems to ‘[dazzle]’ their eyes until they ‘may by knowledge grow more bold, / And so more able to behold / The body whence [it] shine[s]’ (*CWBJ* 5.442.259, 261, 268-70). This happens in the Second Song, where Jonson invites audience and masquers to ‘look and see in yonder throne / How all those beams are cast from one’, effectively turning the auditorium into another stage

¹⁰¹ Stephen Orgel, *The Illusion of Power: Political Theater in the English Renaissance* (Berkeley/Los Angeles/London: University of California Press, 1975), p. 42.

¹⁰² *Ibid.*, p. 10.

¹⁰³ *Ibid.*, pp. 11-14, 16.

and an earthly analogue of the celestial world, with James as its brightest and most clearly visible star (*CWBJ* 5.443.273-74).

Crucially, however, here to ‘look’ is not merely to see the king, but to ‘Read him as you would do the book / Of all perfection’, with the ultimate goal of ‘speak[ing] him to the region whence you came’ – that is, the heavens (*CWBJ* 5.443.279-80, 301). Likewise, to ‘read’ is more than to peruse or to look at; rather, it is to interpret and comprehend, implying an act of literary appreciation that takes place in the intellect or understanding where the eyes do not penetrate. The same applies to the personification of Fame who appears towards the very end of the masque, prompting the court to ‘Look, look already where I am’ (*CWBJ* 5.444.305). Just as it is impossible to literally ‘[r]ead’ the king, it is likewise impossible to ‘[s]ee’ Fame, as the First Herald suggests, the implication being that if telescopic discovery can make the cosmos visible, it is poetic invention alone that can render it intelligible (*CWBJ* 5.444.319). If to read is to understand, to see is to achieve insight. Not unlike divinity itself, the full splendour of Jacobean kingship cannot be grasped visually, Jonson’s conceit seems to imply. On the contrary, to apprehend James’s ‘piety, wisdom, [and] majesty’ is to cultivate a very different kind of (poetic) vision wholly ‘invisible to mortal sight’, as Milton would put it much later in *Paradise Lost* (*CWBJ* 5.441.249).¹⁰⁴ As we saw earlier, the telescope in its Galilean and Drebbelian incarnations promised to make a wealth of previously unseen natural phenomena visible to the naked eye and thereby to extend not only the king’s sovereign gaze, but also his symbolic dominion over both the natural and the political cosmos. However, whilst it permitted observation and discovery, it did not confer the ability to shape or influence the world that emerged from behind its lenses. By delighting and moving

¹⁰⁴ John Milton, *Paradise Lost*, ed. by Alastair Fowler, rev. 2nd edn (Harlow: Pearson Longman, 2007), 3.55 (p. 170).

the court in the same way that the Volatees are ‘formed, / animated, lightened, and heightened by you [the king]’, poetry, by contrast, offered a means of controlling not only how the king was seen, but more importantly, how he was perceived (*CWBJ* 5.441.246-47).

Sceptics including Descartes, Hobbes and their contemporaries first gave coherent expression to the insight that ‘vision [...] consisted of “all the judgements about things outside us which we have been accustomed to make from our earliest years”’, and that ‘it is language which is the model for making such judgements’.¹⁰⁵ But as the reappearance of ‘Fame that doth nourish the renown of kings’ towards the end of *News from the New World* suggests, here too correct judgements about external things are formed not so much by visual perception but by the kind of heightened vision that only the poet could afford (*CWBJ* 5.444.322). It is not homage to the visual spectacle of Jacobean kingship that the Chorus invites the audience to participate in at the end of the masque, but ‘to tell his name, / And say but James is he’ (*CWBJ* 5.444.314-15). What is required here is not an act of looking, but an act of spoken adulation. It is not enough to look at the king’s person. Instead, Jonson invites the courtly audience – and his readers – to recognise and acknowledge it for a heightened and ideal embodiment of royalty. The personification of Fame thus reminds us of poetry’s intermediary function as a literary looking glass of sorts: if the scientific instrument magnified physical objects, making them visible to the naked eye, it was only (Jonson’s) literature that could explain their deeper meaning.

By responding to – and exploiting – the epistemological crises precipitated by new astronomical discoveries and the simultaneous collapse of Aristotelian theories of human perception, the masque thus suggests a new hierarchy of the senses in

¹⁰⁵ Clark, p. 343.

which the act of looking that the telescope seemed to reify must be socially and rhetorically mediated if it is to '[keep] that fair which Envy would blot out' (*CWBJ* 5.444.322). In doing so, it inaugurates what Giancarlo Maiorino, writing on perspective as rhetorical metaphor in painting, has called a new 'grammar of visibility' that clearly distinguishes between physiological and poetic kinds of vision.¹⁰⁶ In asserting the superiority of the latter over the former, Jonson clearly seeks to anchor perception in language – and not just in language, but in language conceived as a culturally mediated field of vision accessible exclusively through the symbolically heightened lens of the poetic imagination.

TRUE LIES: ALLUSION AND ILLUSION IN *THE MASQUE OF AUGURS*

The Masque of Augurs (1622) projects a much more intimate, and in many ways, cruel portrait of Drebbel than either *Mercury Vindicated* or *News from the New World*, where Jonson responds primarily to the rival poetics of power his inventions seemed to inscribe, as we have seen. It also pursues a less stringently articulated political agenda, negotiating instead a range of questions pertaining to the increasingly vexed relationship between visual and poetic kinds of wit that would eventually give rise to the famous quarrel between Jonson and Jones. But in doing so the masque nevertheless suggests another important perspective on the value Drebbel's machines held for Jonson as devices both to mock at and to think with. Throughout the antimasque, the inventor features prominently as the ridiculous antimasque character Vangoose, a 'rare artist' and hapless would-be 'projector of masques' who, in the absence of both 'the king's poet' and 'his architect' (Inigo Jones), proposes 'to fill up the vacuum with some pretty presentation' (*CWBJ*

¹⁰⁶ Giancarlo Maiorino, *The Portrait of Eccentricity: Arcimboldo and the Mannerist Grotesque* (University Park, PA/London, UK: Pennsylvania State University Press, 1991), p. 40; quoted in Clark, p. 101.

5.589.3, 593.86, 592.64, 67-68).¹⁰⁷ This presentation turns out to be a magic lantern show, a spectral display of images that he promises to stage ‘met de *ars* van de catopricks, by the refleshie van de glassen’ (*CWBJ* 5.597.193). As Paula Findlen explains, the art of catoptrics and reflecting ‘glassen’ or mirrors that Vangoose alludes to here was ‘the quintessential seventeenth-century science of mathematically rendered optical illusions’, which constituted one of the several branches of early modern optics.¹⁰⁸

The argument I want to make in this final section of my chapter relates to the mutually constitutive relationship of optical and rhetorical kinds of illusion – and related concepts of wit – in *Augurs*, the first masque to be performed on the perspective stage of Inigo Jones’s new Banqueting House. There is no conclusive evidence to suggest that the early Stuart court ever witnessed the kind of optical display that Vangoose proposes – although the antimasque seems to presuppose a degree of familiarity with ‘de *ars* van de catopricks’ among the audience. But culturally, the early Jacobean court would have been extremely well attuned to the concept of illusion. As Koen Vermeir reminds us, ‘[t]o delude and to dazzle was the art of the courtier, particularly in an absolutist society where courtly rituals became ever more important’.¹⁰⁹ And arguably no ritual was more important, no illusion more complete than that achieved by the royal masque, ‘a visual representation of a poetic ideal’ that culminates in ‘[t]he illusion incorporat[ing] the real into itself’, as Ernest Gilman puts it.¹¹⁰

¹⁰⁷ To my knowledge, Vera Keller was the first to establish Vangoose’s identity. Keller, pp. 126-29, 132. The editors of the *Cambridge Works* support this identification, see 5.583, 592.75n. I have arrived at my conclusions independently.

¹⁰⁸ Paula Findlen, ‘Introduction: The Last Man Who Knew Everything... or Did He?: Athanasius Kircher, S. J. (1602-80) and His World’, in *Athanasius Kircher: The Last Man Who Knew Everything*, ed. by Paula Findlen (New York/London: Routledge, 2004), pp. 1-48 (p. 28).

¹⁰⁹ Vermeir, p. 130.

¹¹⁰ Ernest B. Gilman, *The Curious Perspective: Literary and Pictorial Wit in the Seventeenth Century* (New Haven/London: Yale University Press, 1978), pp. 62, 64.

Augurs is not generally included in the canon of important Jonsonian masques that register particular milestones in the literary and theatrical development of the genre.¹¹¹ But as I shall show, it does in fact ask an important question about the nature of illusion, and, by implication, about the value and ‘endeavour of learning and / sharpness in these transitory devices’ at a time in James’s reign when the masque was increasingly garnering special interest for its elaborate visual spectacles and ingenious stage machines (*CWBJ* 2.668.13-14). Stephen Orgel observes that ‘the masque writer faced the central problem of making his art relevant to a particular event: giving airy nothing to a local habitation and name [*sic*]’.¹¹² But conversely, he also faced the far more pressing problem of giving his poetic inventions a life beyond the masque’s brief life-span on the courtly stage, a problem of acute interest to Jonson in the early 1620s, when ‘airy nothing’ was precisely what visual technologies like the magic lantern seemed to elevate to the status of drama, as we will see.¹¹³

In the following pages, I will argue that *Augurs* explores the growing tension between visual representation and poetic ideal both in the medium of the masque and in Jacobean culture more widely, inscribing a creative antagonism between the optical deceit(s) of the antimasque and the poetic conceit of the main masque – between Vangoose’s ephemeral and momentary projections and Jonson’s own ‘impressing and lasting’ poetic spectres (*CWBJ* 2.667.3). To that end, Jonson negotiates two related kinds of illusion that sustain an economy of mutually reinforcing optical and rhetorical kinds of wit: these are the artificially created and

¹¹¹ It is recognised for introducing an antimasque of ordinary London characters and for including what Martin Butler calls a ‘discovery sequence’ at the end featuring the classical pantheon, both of which elements that would become integral to the masque. *CWBJ* 5.583.

¹¹² Stephen Orgel, *The Jonsonian Masque* (Cambridge, MA: Harvard University Press, 1965), p. 7.

¹¹³ Print was one obvious way to achieve this. As Butler notes, *Augurs* was the first of Jonson’s masques since *Queens* to be published in quarto. *CWBJ* 5.583. See also Joseph Loewenstein, *Ben Jonson and Possessive Authorship* (Cambridge: Cambridge University Press, 2002), p. 204.

mechanically sustained optical illusions of Vangoose's magic lantern in the antimasque, and Jones's neo-classical perspective design in the main masque, which culminates in a poetically heightened vision of Jacobean England.

In the former, Jonson wrests contemporary notions of optical illusion to the purpose of satire (at Drebbel's expense), answering optical deceit with poetic conceit. For as Vermeir notes, in the early modern period illusion (*illusio*) constituted a rhetorical figure best defined as a 'mocking or scorning' akin to irony, which is 'when ye speake in derision or mockerie', as Puttenham writes, and which alludes to 'a deeper meaning'.¹¹⁴ In the main masque, meanwhile, Jones's perspective design – conceived to illustrate the transfer of rule from imperial Rome to Jacobean England that James aspired to – enables a corresponding poetic evocation of *translatio studii* on Jonson's part. Answering the challenge of visual spectacle introduced in the antimasque, this is intended to substantiate the association of literary classicism with the classicism of the Jacobean court that Jonson had spent his entire career cultivating. As we will discover, it is thus only in relation to Jonson's satirical allusions to Drebbel's magic lantern in the antimasque that the main masque's visual and poetic conceit unfolds its full effect or 'deeper meaning'. Ultimately, the mutually constitutive relationship of optical deceit in the antimasque and poetic conceit in the masque proper will reveal a significant point of connection – the 'symbolic relationship or hinge' – between the masque's various elements that *Augurs* continues to be accused of lacking (*CWBJ* 5.583).

As already indicated, the antimasque contains a multitude of satirical allusions to Drebbel. Some of these are *ad hominem* attacks, including an attempt to implicate Vangoose's project of 'bring[ing] in some dainty new ting dat never vas

¹¹⁴ Thomas Blount, *Glossographia: Or A Dictionary Interpreting all such Hard Words Of Whatsoever Language, now used in our refined English Tongue* (London, 1661), sig. X3^v; Wing B3335. Puttenham, sig. Y^r. Vermeir, p. 136.

nor never sall be / in de *rebus natura* [the things of nature]' in the occult practices of Rosicrucianism (a strategy already familiar from *News from the New World*); several jokes about his heavy Dutch accent, which reveals a 'Briton born, [...] now speaks all languages in ill English'; as well as various unflattering and openly derisory remarks about his artistic and technical acumen (*CWBJ* 5.593.79-80, 82-85, 598.212). These are prompted by Vangoose's vainglorious claims to several 'secret[s] dat ick heb' and with which he means to 'do something that is / impossible' (*CWBJ* 5.597.198, 200-1).

By far more important and substantial is Jonson's satire of the magical 'vizioun' by which Vangoose hopes to create the above-mentioned 'dainty new ting', and thus to fill the vacuum left by 'the Christmas invention [that] was drawn dry at court' (*CWBJ* 5.597.198, 593.79-80, 592.63). The first display he intends to stage with the help of his magic lantern involves an exotic show of 'de groat Turkschen', 'de Sofie van Persia', 'de Tartar Cham', and 'de groat king of Mogul' fighting in the air 'and be all killen, and aliven, and no sush / ting' (*CWBJ* 5.597.188-193).¹¹⁵ Failing to pique his prospective audience's interest, however, Vangoose is quick to dismiss the entire idea, lighting instead upon a device for figuring 'all de whole brave pilgrim o' de vorld; / [...] here, dere, everywhere, mak[ing] de fine labyrints and show all de brave error in / de vorld', which eventually culminates in the '*perplexed dance of straying and deformed / pilgrims*' that constitutes the second antimasque (*CWBJ* 5.597-98.208-11, 598.223-24).

Both of these shows seem paradigmatic of what Anthony Johnson has termed the antimasque's 'aesthetic of emptiness', betraying a mechanical, arbitrary, and

¹¹⁵ In 1638, the mathematician Jean-François Nicéron described a heavily symbolic anamorphic image of Louis XIII of France constructed from several images of Ottoman rulers, a device Thomas Hobbes witnessed during his visits to Paris and which Noel Malcolm has argued may have influenced the design on the title page of *Leviathan* (1651). Clark, p. 105. Noel Malcolm, *Aspects of Hobbes* (Oxford: Oxford University Press, 2002), pp. 212-17, 223-28.

illusory kind of optical magic that caters to the contemporary appetite for the exotic and outrageous, but seems to signify little more than its own conceit.¹¹⁶ Reading these displays as an allegory of Jacobean politics in the early 1620s, Johnson detects a deep-running uneasiness about the contemporary threat of continental warfare, the failing Spanish Match, and Parliamentary rebellion against the king. Together, he suggests, Vangoose's magic lantern shows reflect on *Augurs* in its entirety as a vision of 'a possible world which never came to be'.¹¹⁷ This thesis is attractive for various reasons, not least because it helps to explain the neo-classical vision of Augustan Rome – with its connotations of empire, political stability, and enduring peace – that Jonson conjures in the main masque. I shall return to this point later on in this section. Here, I want to explore the comparisons with Drebbel's own catoptrical and theatrical exploits that Vangoose's displays invite, arguing that Jonson's satirical allusions to the inventor's magic lantern ultimately reveal something of the poet's anxiety about the status of the masque in the early 1620s. As we will see, not only did the magic lantern seem to equal – perhaps even to surpass – the mimetic qualities of poetic invention; it also seemed to authorise a rival conception of what theatre could achieve and, crucially, what it ought to be.

Today more readily associated with the phantasmagoric spectral shows of the eighteenth and nineteenth centuries, the magic lantern is generally considered the early modern predecessor to the modern technologies of the slide projector, the overhead projector, and, more distantly, the movie projector and television screen. Extant since the middle ages in various designs less sophisticated than those for which Athanasius Kircher (1601-1680) and Christiaan Huygens (1629-1695) are

¹¹⁶ Anthony W. Johnson, 'Jonson's Eirenic Community: The Case of *The Masque of Augurs* (1622)', in *Writing and Religion in England, 1558-1689: Studies in Community-Making and Cultural Memory*, ed. by Roger D. Sell and Anthony W. Johnson (Farnham, UK/Burlington, VT: Ashgate, 2009), pp. 169-93 (p. 176).

¹¹⁷ *Ibid.*, pp. 178-79, 192.

famous, it was valued and feted for its capacity to produce astonishingly life-like optical illusions (*fig 11*).¹¹⁸ If a camera obscura constructed by Drebbel could render Christiaan's father Constantijn Huygens (1596-1687) speechless with wonder at its ability to picture 'life itself, or something higher, if we could find a word for it', the magic lantern multiplied its theatrical effect ten-fold.¹¹⁹ According to a surviving

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letter by Drebbel dated 1608, in which he describes such a device, it allowed him to metamorphose 'into the shape of any creature' while in plain view, to produce convincing images of ghosts and giants, and to 'change [him]self into a real tree,

¹¹⁸ There has been significant dispute among historians of science over whom to credit for the invention. General consensus seems to favour Christiaan Huygens, whose correspondence contains a device that conforms to the magic lantern's basic specifications, consisting of a parabolic reflector, light source, condensing lens, slide stage, and an adjustable objective of two biconvex lenses. Hankins and Silverman, p. 44.

¹¹⁹ Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago: University of Chicago Press, 2004), p. 163.

with leave fluttering as if in the breeze'.¹²⁰ This was not merely to create life-like images in a darkened room, as the camera obscura did. This was optical illusion turning into life itself by a mimetic (and essentially poetic) process we saw Gilman describe earlier as 'illusion incorporat[ing] the real into itself'.¹²¹

But more than competing with the 'mimetic magic' of poetic metamorphosis, the magic lantern also removed the limits on what theatre could hope to achieve visually – albeit at the cost of its literary and moral qualities, as Jonson was to assert later.¹²² In 1620, Drebbel's name – and his magic lantern – resurfaces in the proposals for a speculative, costly, and ultimately abortive plan for the construction of a new theatrical venue in London that may have supplied Jonson with his model for Vangoose's similarly unsuccessful 'project' in *Augurs* (CWB 5.593.86).¹²³ Conceived for '*The Exercise of many Heroick and Maiestick Recreations*', the purpose-built amphitheatre would have been capable of hosting a wide variety of spectacles as disparate as military tournaments, pageants, animal fights, and, revealingly, '*Masques of very Exquisite and Curious Inuentions*'.¹²⁴ Drebbel was to be responsible for a variety of visual spectacles including 'Sea Fights, Prospectiues, Nocturnalls, Driades, Naides, Fire, and Water-workes' – a good indication of the extent to which popular taste for the marvellous and spectacular had grown.¹²⁵ Unfortunately, there is no discussion of the technical details, but the 'Nocturnalls' Drebbel would have been contracted to stage appear to indicate that what was envisioned was indeed some kind of magic lantern show. Vaguely defined as 'vnexpressable Figures; Visions, and Apparitions, Figureing deepe Melancholly and

¹²⁰ Quoted in Tierie, p. 50. Hankins and Silverman, p. 47. Martin Butler notes that this magic lantern was displayed publicly in 1608. CWB 5.592.75n.

¹²¹ Gilman, *Curious Perspective*, p. 64.

¹²² Stephen Orgel, 'The Poetics of Spectacle', *New Literary History*, 2.3 (1971), 367-89 (p. 367).

¹²³ G. E. P. A., pp. 481-82; mentioned in Drake-Brockman, p. 124n.

¹²⁴ G. E. P. A., pp. 481-82.

¹²⁵ *Ibid.*, p. 482.

vnvsuall Representations’, they seem to resemble a kind of seventeenth-century version of Victorian phantasmagoria.¹²⁶ As such, they suggest a shift in popular perceptions of visual deception away from post-Reformation suspicion of devilish and ‘polliticke illusions’ – often engendered by anti-Catholic resentment – and towards a new appreciation of their entertainment value.¹²⁷

Revealingly, the projectors do not seem to recognise a qualitative difference between catoptrics and poetics, between ‘*Masques* of very Exquisite and Curious Inuentions’ and an eclectic variety of popular, even low, entertainments including animal fights, or Drebbel’s ‘Nocturnalls’. It would seem, then, that by the early 1620s artificial optical illusions were deemed proper material for theatrical display – not unlike the telescope, as we saw earlier – and that the delicate balance of literary conceit and visual representation so important to Jonson was being tipped in favour of the latter. Indeed, by treating as equal visual and literary kinds of wit, the proposal envisages entirely new possibilities for the theatre: for if at the beginning of Jonson’s career at court it ‘was assumed to be a verbal medium’ that availed itself of spectacle to convey dramatic experience, as Stephen Orgel reminds us, here spectacle is the drama.¹²⁸ As Terry Castle notes, the nineteenth century would discover ‘a favourite metaphor for the heightened sensitivities [...] of the romantic visionary’ in the spectral fantasies conjured by the magic lantern.¹²⁹ But as we will see next, to Jonson it seems to herald the decline of the Jacobean theatre into what, years later, he would go on to call the ‘twice-conceived, thrice-paid-for imagery’ of a ‘money-get,

¹²⁶ Ibid. One of the earliest depictions of a magic lantern survives in Giovanni Fontana’s *Bellicorum Instrumentorum Liber* (Venice, 1420-30). Fol. 70^r depicts a terrifying she-devil projected from a crude version of the device, accompanied by the inscription ‘Apparentia nocturna’ (nocturnal apparition).

¹²⁷ Robert Greene, *An Oration or Funerall Sermon vttered at Rome, at the burial of the holy Father Gregorie the 13. who departed in Iesus Christ the 11. of April. 1585* (Paris, 1585), sig. Aii^r; STC 12354.5.

¹²⁸ Orgel, *Illusion of Power*, pp. 16-18.

¹²⁹ Terry Castle, ‘Phantasmagoria: Spectral Technology and the Metaphorics of Modern Reverie’, *Critical Inquiry*, 15.1 (1988), 26-61 (pp. 31, 43, 48).

mechanic age' (*CWBJ* 6.379.90, 377.52). In that respect, *Augurs* registers both Jonson's discontent with the trajectory the magic lantern seemed to project for the masque of the future, and suggests a means of rescuing poetry from the sidelines of contemporary court theatre.

Echoing Jonson's own misgivings, modern critics have interpreted *Augurs*'s apparent lack of artistic and intellectual unity as a sign of the irrevocable decline of the Jonsonian masque as a literary genre, prompted by the growing cultural taste for the ever more fantastical and spectacular epitomised by Vangoose's magic lantern displays. Indeed, neither the eclectic goings-on of the first antimasque nor the '*perplexed dance*' conjured in the second seem to relate to the main masque and revels – perhaps an ironic reflection on the '*many Heroick and Maiestick Recreations*' envisioned as part of the above-mentioned amphitheatre project (*CWBJ* 5.598.223). As Vangoose himself asserts, 'vor an antic-masque, de more absurd it be and / vrom de purpose, it be ever all de better', leading Jonas Barish to conclude that the antimasque characters 'represent little but their own oddity', a direct result of 'cutting the antimasque loose from its allegorical moorings' (*CWBJ* 5.598.219-20).¹³⁰

However, whilst I agree with Barish's assessment of its 'oddity', I would nevertheless suggest that there exists a very close relationship between the masque's seemingly disparate elements – indeed that Vangoose's spectral shows reveal their full meaning only in relation to the utopian vision of Augustan peace that Jonson constructs in the main masque.¹³¹ As I will show in concluding, here the polarity of

¹³⁰ Jonas Barish, *The Antitheatrical Prejudice* (Berkeley/Los Angeles/London: University of California Press, 1981), pp. 266, 269-70.

¹³¹ Cf. Orgel, *The Jonsonian Masque*, p. 93: 'Structurally, the function of the Jonsonian antimasque was to set up a world of particularity, which was organically related, and at the same time in contrast, to the symbolic world of the masque. [...] the antimasque set up a problem for which the masque was

optical deceit and poetic conceit authorises a recuperative poetic vision of Jacobean England that prompts the transformation of ‘a possible world which never came to be’ – the self-referential world of the antimasque – into one that could still become.¹³²

The manner in which Jonson introduces his main masque is of particular significance here. As the stage directions in the printed version (published in 1622) indicate, Apollo – the god of music, prophecy, and poetry – interrupts and ‘*fright[s] away*’ the ‘*straying and deformed / pilgrims taking several paths*’ that Vangoose seems to have conjured in the second antimasque (*CWBJ* 5.598.223-24). The god’s vertical descent, accompanied by ‘*the opening of the light above*’, constitutes a startling and hugely symbolic intervention as light replaces darkness, and the linear perspective of Inigo Jones’s design for the College of Augurs symbolically cuts across the confused and ‘*several paths*’ taken by Vangoose’s spectral dancers (*CWBJ* 5.598.223-25). As Gilman notes, ‘the masque typically makes a “visual progress” from disorder to order [...] embodied, not simply illustrated, in the changing scene and machines of the masque spectacle’.¹³³

Jones’s perspective stage design for *Augurs* provides a case in point. One of his surviving sketches suggests a classical cityscape that directs the spectators’ gaze towards the College of Augurs, a Palladian fantasy located at the visual centre of the stage. The classical pantheon (to be revealed or ‘*discovered*’ at the end of the masque) is flanked by Jove and Apollo, who hover overhead on cloud machines (*CWBJ* 5.603.342, 5.585). Jones’s design accomplishes several things at once: it establishes a visual connection between the Jacobean court and the imperial Roman

a solution. [...] for Jonson it was the antimasque that served to give meaning to the masque, to explain it, to make the audience understand’.

¹³² Johnson, p. 192.

¹³³ Gilman, *Curious Perspective*, p. 63.

past that James had aspired to since the very beginning of his reign, but it also works in the opposite direction, drawing attention to the biological line of descent that connected the Jacobean present to the Caroline future. As briefly explained earlier in this chapter, courtly decorum demanded that the monarch sat at ‘the single point in the hall from which the perspective achieved its fullest effect’.¹³⁴ In *Augurs*, this would have placed James at one end of the design’s central vista, the other being the College of Augurs from which the masquers, including ‘the princely augur’ Charles, emerged during the performance (*CWBJ* 5.603.336, 600.275-76). Overcoming ‘the erring mazes of mankind’ symbolised by Vangoose’s straying pilgrims, the strictly linear perspective of Jones’s design thus implies both a visual and ideological line of descent from James to Charles, from the ‘King of the ocean and the Happy Isles’ and ‘Prince of thy peace’ to the chief augur whom ‘shall you see triumphing over all, / Both foes and vices; [...] / To give this island princes in long races’ (*CWBJ* 5.600.253, 599.250, 600.256, 266, 603.338-41). The neo-classical stage design corresponds with Jonson’s evocation of Augustan Rome, ‘free / From hatred, faction, or the fear / To blast the olive thou dost wear’ (*CWBJ* 5.602.303-5). Here, visual and literary kinds of wit work together to translate the confusion of Vangoose’s warring oriental emperors and straying pilgrims – emblems of the volatile political landscape of the early 1620s, as we saw Johnson argue earlier – into its antithesis, a clearly defined vision of peace and plenty.¹³⁵

To Jonson, meanwhile, perspective holds a very different kind of polemical potential. As Stuart Clark explains, perspective formed one of the three branches of the art of early modern optical illusion, the others being catoptrics and

¹³⁴ Stephen Orgel and Roy Strong, *Inigo Jones: The Theatre of the Stuart Court*, 2 vols (Berkeley/London/Los Angeles: University of California Press, 1973), I, p. 7; quoted in Gilman, *Curious Perspective*, p. 63.

¹³⁵ Johnson, pp. 178-79.

anamorphosis.¹³⁶ All three rely on deception in one way or another. But perspective differs from the artificial visions of the magic lantern in one significant aspect, which Jonson exploits to highly dramatic effect: the latter takes an undistorted originary image and with the help of lens or mirror wrests it to the projection of a falsehood, a ‘ting dat never vas nor never sall be / in de *rebus natura*’, as Vangoose puts it (*CWBJ* 5.593.79-80). Perspective, by contrast, offers ‘complete deception in the service of utter veracity’, distorting the object of sight so as to achieve mimetic perfection.¹³⁷ Unlike Drebbel’s optical illusions, perspective calls attention to its own artifice, encouraging critical distance and ‘a recognition of the joke as joke’.¹³⁸ A kind of true lie, it thus resembles the work of poetry itself, which, in ‘feigning’ or imitating ‘the life of man’ deploys a similar kind of dissimulation so as to reveal ‘things like the truth’, as Jonson notes in *Discoveries* (*CWBJ* 7.578.1666, 1669-70).

The Masque of Augurs predates Jonson and Jones’s famous quarrel over artistic precedence, which centred on the precise relationship between visual and literary elements in the court masque.¹³⁹ It is therefore not entirely surprising that Jones’s visual and Jonson’s poetic languages should mutually complement one another. Throughout the main masque, the linear perspective of Jones’s set design corresponds with the line of literary descent Jonson establishes between his own poetry and that of his classical predecessors, I argue here. Thus, when he turns projector himself, conjuring a spectacle of ‘lightning [...] bright and blue’ for the reanimated spectres of Linus, Orpheus, Branchus, Idmon, and Phoemonoë to interpret, his allusions to a mythic literary past serve to translate Jones’s logic of

¹³⁶ Clark, pp. 83, 90, 96-97.

¹³⁷ *Ibid.*, p. 83.

¹³⁸ Vermeir, p. 156. Gilman conceives of the masque stage as a ‘perspective box’ from which it is impossible to extricate oneself. Gilman, *Curious Perspective*, p. 65.

¹³⁹ See D. J. Gordon, ‘Poet and Architect: The Intellectual Setting of the Quarrel between Ben Jonson and Inigo Jones’, *Journal of the Warburg and Courtauld Institute*, 12 (1949), 152-78 (pp. 170-71).

perspectival illusion into the poetic register (*CWBJ* 5.601.277-78, 599.237-38). Linus and Orpheus in particular are famous for the kind of mimetic magic that, like Apollo's own, 'Rear[s] towns, and make[s] societies rejoice' (*CWBJ* 5.599.230). By aligning his own verse with the nation-building poetic magic of antiquity, Jonson's invention thus inscribes a strictly linear vision of *translatio studii* that mirrors the *translatio imperii* emblematised by Jones's neo-classical design, lending his poetic efforts the legitimacy of official royal propaganda.

As Richard Helgerson reminds us, Jonson prided himself on his magisterial grasp of textual authorities ranging from the classical to the contemporary. Thus, although never uncritical in his assimilation of the classics, he 'advertised his connection with antiquaries and scholars, freighted the margins of his work with learned citations, [...] and had his portrait painted with a band declaring him 'DOCTISSIM[US] POETARUM ANGLORUM', conceiving of his literary classicism as a reflection of – an on – the monarch and court that he served.¹⁴⁰ Drebbel, by contrast, professed himself a disciple of the empirical philosophy. Like Vangoose, whose dialogue contains an explicit allusion to Drebbel's scientific writings, he seems to have looked to nature as the only permissible source of true insight and invention, rejecting the textual authorities of antiquity beloved of Jonson, who famously held that things 'objected to sense, [...] are but momentary and merely taking', while things 'subjected to understanding' are 'impressing and lasting' (*CWBJ* 2.667.1-3).¹⁴¹ As I argue here, this dichotomy between 'understanding' and 'sense', between the things of nature and the things of the intellect is also at work in

¹⁴⁰ Helgerson, p. 121.

¹⁴¹ Cornelis Drebbel, *Ein kurtzer Tractact von der Natur der Elementen* (Leiden, 1608), preface (no pagination). In the antimasque, Vangoose explains that inventors (in which category he includes both himself and 'the king's poet') 'have noting, noting van deir own // but vat dey take vrom de eard, or de zea, or de hell, or de rest van / de veir elementen', a clear allusion to Drebbel's *On the Elements*. *CWBJ* 5.592.64, 592-93.76-78, 78n, 592.75n.

Augurs, where it underwrites the intricate relationship between Vangoose's optical illusions and Jonson's poetic conceits: theatre may be little more than illusion, he seems to imply, but the masque could turn that illusion into what Orgel calls 'a poetic and dramatic experience – [...] in other words, a reality'.¹⁴²

But no matter how useful Jones's perspective is to Jonson in this respect, and although he is prepared to acknowledge that '*the invention was divided betwixt Master Jones and me*', in the printed version of the masque Jonson reiterates a point he had already made in *News from the New World*: that even though it may be '*full of noble observation*', vision acquires proper meaning only through poetic '*expression*' (CWBJ 5.604.374-75).¹⁴³ As Gilman comments, for Jonson 'the inmost reach of perspective is as delusory as the inch-deep vistas of an Inigo Jones masquing set', offering the poet 'a set of terms for distortion, confusion, and enchantment as well as for insight'.¹⁴⁴ In *The Masque of Augurs*, it accomplishes all of these functions, confusion and especially (visual) distortions of the kind afforded by Vangoose's magic lantern shaping the antimasques, while poetic enchantment and insight reign supreme in the masque proper. There are, then, several points of connection between the former and the latter, which are political, poetic, and visual. Together, they suggest that far more than representing their own oddity the antimasque characters – especially Vangoose and his magic lantern – are intrinsic, albeit in contrast, to the visual, poetic, and ideological conceit of the main masque.¹⁴⁵ However, ironically, and despite his best efforts to assimilate sight into a discursive vision of truth both here and in *News from the New World*, Jonson was never to be entirely free from the

¹⁴² Orgel, *The Jonsonian Masque*, p. 185.

¹⁴³ This brief note acknowledging Jones's part in the conceit appeared only in the second issue of the printed text. John Peacock, *The Stage Designs of Inigo Jones: The European Context* (Cambridge: Cambridge University Press, 1995), p. 302.

¹⁴⁴ Ernest B. Gilman, *Iconoclasm and Poetry in the English Reformation: Down Went Dagon* (Chicago/London: The University of Chicago Press, 1986), p. 52.

¹⁴⁵ Orgel, *The Jonsonian Masque*, p. 93.

spectre of Drebbel's magic lantern. Perhaps Inigo Jones had the inventor's device in mind when in 1632 he provoked Jonson by claiming that masques are 'nothing else but pictures with Light and Motion'.¹⁴⁶

CONCLUSION

For Jonson, satire of Drebbel's magico-mechanical inventions constitutes a particular form of literary and intellectual agency. As I have demonstrated throughout this chapter, his literary response to some of the inventor's most spectacular machines reflects and engages with important contemporary debates about visibility and textuality prompted by the advent of new (visual) technologies in the early seventeenth century. We saw that in *Mercury Vindicated*, literary analysis of the self-perpetuating fictions that sustained Drebbel's perpetual motion machine informs and eventually seeks to transform early Stuart visions of absolute power, documenting a battle for interpretational sovereignty over the political cosmos of Jacobean England that subsequent critical conversations with Galilean astronomy and its instruments in *News from the New World* extends to the phenomena of the natural world. Here, Jonson unfolds a theory of visual perception that relocates the 'sovereign gaze' of the monarch in a discursive field of vision circumscribed only by the limits of the poetic imagination. In *Augurs*, finally, a number of satirical allusions to Drebbel and to his version of the magic lantern sustain a creative antagonism between related concepts of visual and rhetorical wit, the polarity of illusion and allusion, of optical deceit and poetic conceit imagining a vision of poetic *technē* unbounded by the political realities of late Jacobean England.

¹⁴⁶ Aurelian Townshend, *Tempe Restord* (London, 1632), sig. A3^r; STC 24156.

Together, these three masques constitute substantial and unprecedented critical analysis of the various narratives of cultural, political, and scientific authority attaching to Drebbel's spectacular and highly theatrical mechanical displays, setting against each other competing monopolies of scientific, literary, and political discourse. In doing so, they not only illuminate a particularly striking set of imaginative transactions between early modern mechanical and literary cultures. They also document a previously unexplored tension in Jonson's later masques between Drebbel's mechanical marvels, the self-validating narratives of cultural authority they generated, and the poetically engineered truths that accrue around the idealised fictions of the masque. Ultimately, Jonson's battle against the encroachments of contemporary mechanical and visual cultures on his (courtly) poetry is a battle for literary agency. It foreshadows some of the ideological conflicts that would shake the later Stuart dynasty to the core. As we will discover in the next and final part of this thesis, in the mid-seventeenth century a very different set of mechanical devices focalised similar battles for textual agency to equally polemical effect, substantially shaping the political and religious discourse of the Civil War and Interregnum.

4. 'AN INSTRUMENTE, OF INSTRUMENTES': MECHANICAL HANDS AND TEXTUAL AGENCY IN THE ROYALIST POLEMICS OF THE ENGLISH CIVIL WAR AND INTERREGNUM

As I have demonstrated in the previous chapters of this thesis, extant and emerging technologies provided an important platform for negotiating ideological conflict throughout the early modern period. The mathematical instruments of Tudor England, Spenser's subtle allegorical engines, or the magico-mechanical showpieces of the early Stuart court – all of these devices played pivotal parts in the construction and perpetuation of competing narratives of literary, political, and religious authority. In the final part of this thesis, I turn to the rhetorical battlefields of the mid-seventeenth century, where tropes of technologically driven human enhancement borrowed from contemporary surgical practice on the one hand, and emergent visions of the Cartesian body-machine on the other, prompt new kinds of surrogate textual agency in both Royalist and Parliamentary polemics. While the automaton will take centre stage in Chapter 5, here I investigate the metaphorical applications of early modern prosthetics in Royalist narratives of the Civil War and Interregnum, specifically, mechanical iron hands of the kind designed by the sixteenth-century French surgeon Ambroise Paré (1510-1590).¹

Like the technologies I have already examined, prostheses ranged across early modern media, partaking of the textual and the mechanical. In the technical medical sense, artificial limbs are, and have been since antiquity, technologies of

¹ Paré was physician to four consecutive French kings. His pioneering surgical techniques, developed mainly during military campaigns in France and Italy, influenced generations of medical practitioners. Roy Porter, 'Hospitals and Surgery', in *The Cambridge History of Medicine*, ed. by Roy Porter (Cambridge: Cambridge University Press, 2006), pp. 176-210 (pp. 179-80). See also Alan J. Thurston, 'Paré and Prosthetics: The Early History of Artificial Limbs', *ANZ Journal of Surgery*, 77 (2007), 1114-19 (pp. 1116-17). For an overview of early modern medicine, see Thomas Rütten, 'Early Modern Medicine', in *The Oxford Handbook of The History of Medicine*, ed. by Mark Jackson (Oxford: Oxford University Press, 2011), pp. 60-81.

human enhancement, designed ‘To Repaire Or Supply The Naturall or accidentall defects or wants in mans body’, being ‘not onely profitable for the necessity of the body, but also for the decency and comelinesse thereof’, as Paré writes in his *Works*, which was first published in English in 1634.² But as Joanna Zylinska reminds us, ‘in its first appearance in English in 1553 the word *prosthesis* also stood for “an addition of a syllable to the beginning of the word” [...], designating an interruption and simultaneous extension of the body of language’.³ Indeed, in Thomas Wilson’s *The Arte of Rhetorique* (1553), from which Zylinska is quoting, textual *prosthesis* suggests a particular kind of rhetorical interruption and extension. He writes ‘Of Addition. As thus. He did all to berattle hym. Wherein appereth that a sillable is added to this worde (rattle)’.⁴ However, what has been tacitly added here is not merely a syllable but rhetorical emphasis, allowing the speaker to exert a particular kind of linguistic agency akin to that enabled by medical prosthetics. In other words, the early modern idea of prosthesis accommodated both mechanical or physical and textual kinds of meaning.

Devastating injuries to the upper and lower extremities formed part of the stark realities not only of early modern warfare and its attendant outbreaks of sickness and plague, as Diane Purkiss has noted, but also of civilian life, creating a substantial market for prosthetics.⁵ Typical battlefield injuries of the kind recorded

² Ambroise Paré, *The Workes of that famous Chirurgion Ambrose Parey* (London, 1634), pp. 869, 880; STC 19189. The first French edition of Paré’s *Oeuvres* was published in 1585 and contained the accumulated knowledge of more than three decades of medical practice. Porter, p. 179.

³ Joanna Zylinska, ‘“The Future ... Is Monstrous”: Prosthetics as Ethics’, in *The Cyborg Experiments: The Extensions of the Body in the Media Age*, ed. by Joanna Zylinska (London/New York: Continuum, 2002), pp. 214–36 (p. 214). Zylinska is quoting David Wills, *Prosthesis* (Stanford: Stanford University Press, 1995), p. 218.

⁴ Thomas Wilson, *The Arte of Rhetorique, for the vse of all suche as are studious of Eloquence, sette forth in English, by Thomas Wilson* (London, 1553), sig. Aaⁱⁱⁱ; STC 25799. According to the *OED Online*, this usage (‘The addition of a letter or syllable to the beginning of a word’) remained current until at least 1995, although it is now considered rare. *OED Online*, ‘prosthesis, *n.*’, 1.

⁵ Diane Purkiss, *Literature, Gender and Politics during the English Civil War* (Cambridge: Cambridge University Press, 2005), pp. 40–42. Paré offers an eclectic array of devices including artificial eyes fashioned from gold or silver; artificial noses of the same material – or, for the less

by the Royalist surgeon Richard Wiseman (*bap.* 1620-1676) in his *Eight Chirurgical Treatises* (1676) included disfigurements of the face, arms, hands, and legs caused, among other things, by gunfire, shrapnel, and faulty equipment, many of them requiring either amputation or partial amputation, often performed ‘in the heat of the Fight’.⁶ At home, sickness or ‘pestilential Feavour’ and violent altercation seem to have been the prime culprits for an abundance of mortified limbs remedied by a variety of prosthetic devices, including artificial legs of wood ‘not easily discovered’, as John Woodall (1570-1643) notes in *The Surgeons Mate* (1655), or, on occasion, ‘a wood, or yron hand, the maimed arme to ympe’.⁷ Among these latter, Paré’s hugely influential designs are particularly remarkable: unlike much simpler hooks or claws, his mechanical prostheses (*fig* 12) feature a set of fully articulated and mobile fingers, to be operated by an intricate mechanism of straps and gears hidden away within, presumably enabling the wearer to pick up and hold objects. More than a prosthetic replacement, Paré’s iron hand inscribes a fantasy of mechanical perfection that inspires various narratives of surrogate, even superhuman agency that would exert a particular kind of fascination upon Royalist writers of the mid-seventeenth century, as we will see.

In this chapter, I will argue that mechanical limbs in general, and artificial iron hands in particular, inspired what I term a metaphoric of dismemberment in the

affluent, made from paper and linen cloth ‘glewed together’ – artificial teeth; metal palates; artificial tongues and ears; devices for the mending of ‘crooke-backs’ or for those suffering from misshapen legs like Charles I; artificial male genitalia (though not of the kind described in raunchy detail by John Wilmot, Second Earl of Rochester (1647-1680) in his ode to ‘Signior Dildo’ (*c.* 1673)); as well as artificial legs, fingers, and hands. Paré, pp. 869-884. John Wilmot, Earl of Rochester, ‘Signior Dildo’, in *The Complete Poems of John Wilmot, Earl of Rochester*, ed. by David M. Vieth (New Haven/London: Yale University Press, 1962), pp. 54-59.

⁶ Richard Wiseman, *Eight Chirurgical Treatises*, [...]. *The Third Edition* (London, 1696), pp. 394, 445-46, 420; Wing W3106. For a detailed account of Royalist campaigns in the 1640s, see Ronald Hutton, *The Royalist War Effort, 1642-1646*, 2nd edn (London: Routledge, 1999).

⁷ John Woodall, *The Surgeons Mate or Military & Domestique Surgery* (London, 1655), p. 398; Wing W3421. This treatise was first published in 1639 and in a slightly different earlier version in 1617. George Whetstone, *The Rocke of Regard, diuided into foure parts* (London, 1576), p. 36; STC 25348.

Royalist polemic of the Civil War and Interregnum, where grammatical and surgical notions of prosthesis combine with classical and biblical tropes of iron-handed rebellion and iron-handed justice to give rise to new and surrogate forms of textual agency. As I will demonstrate, surgical prostheses returned agency to destroyed limbs and thus acted as focal points for fragmented and traumatised early modern

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selves. By a similar process of rhetorical substitution, their metaphorical counterparts in the political polemic of the mid-century allowed Royalist writers across the political spectrum to assimilate traumatic losses on the military and political battlefields of the 1640s and 1650s into a wider textual critique of the economic,

political, and spiritual devastations inflicted upon the body politic of the nation by what they perceived as an injurious and unlawful act of Parliamentary rebellion.

Royalist writing in the period 1640-1660 remains an understudied but important textual archive for literary and cultural historians.⁸ Of the few dedicated critical studies, several inventory the various rhetorical strategies and tropes deployed in the pamphlet war between Cavaliers and Roundheads. Lois Potter, Lloyd Bowen, and Kevin Sharpe, for example, have traced accusations of witchcraft, criminality, and sexual licentiousness throughout but not exclusively in Royalist polemic, while Jerome de Groot and Diane Purkiss have documented proliferating associations of Parliament and its governmental institutions with monstrosity, bodily and social disorder, and disease, of which Thomas Jordan's (c. 1614-1685) 1641 tract *A Medicine For The Times* is a particularly poignant example.⁹ Translating the rhetoric of early modern surgery to a political context, he compares the war-torn country to a diseased body to be cured only by a politically motivated act of amputation. Thus, he cynically recommends that 'if a man be troubled with a *Round-head*, let him do as if his right hand offended him'.¹⁰ As we will discover in the

⁸ Jason McElligott and David L. Smith have been particularly vocal about the need to address this gap in the existing body of scholarship on the Royalist literature of the 1640s and 1650s. Jason McElligott and David L. Smith, 'Introduction: Rethinking Royalists and Royalism', in *Royalists and Royalism during the English Civil Wars*, ed. by Jason McElligott and David L. Smith (Cambridge: Cambridge University Press, 2007), pp. 1-15 (p. 1); and Jason McElligott and David L. Smith, 'Introduction: Rethinking Royalists and Royalism during the Interregnum', in *Royalists and Royalism during the Interregnum*, ed. by Jason McElligott and David L. Smith (Manchester/New York: Manchester University Press, 2010), pp. 1-17 (pp. 1-3).

⁹ Lois Potter, *Secret Rites and Secret Writing: Royalist Literature, 1641-1660* (Cambridge: Cambridge University Press, 1989), pp. 144-45; Lloyd Bowen, 'Seditious Speech and Popular Royalism, 1649-1660', in *Royalists and Royalism during the Interregnum*, ed. by McElligott and Smith, pp. 44-66 (p. 55); Kevin Sharpe, *Image Wars: Promoting Kings and Commonwealths in England, 1603-1660* (New Haven/London: Yale University Press, 2010), p. 315; Jerome de Groot, *Royalist Identities* (Basingstoke/New York: Palgrave Macmillan, 2004), pp. 95-96, 159; Purkiss, pp. 178-85.

¹⁰ Thomas Jordan, *A Medicine For The Times. Or, An Antidote Against Faction* (London, 1641), sig. A3^v; Wing J1046. Jordan alludes to Matthew 5.30 (KJV): 'And if thy right hand offend thee, cut it off, and cast it from thee: for it is profitable for thee that one of thy members should perish, and not that thy whole body should be cast into hell'. Cf. John Taylor's *The Diseases Of The Times Or, The Distempers Of The Common-Wealth* (London, 1642); Wing T453, and *The Cavses Of The Distempers Of This Kingdom, Found By Feeling of her Pulse; Viewing her Urine, and Casting her Water* (Oxford, 1645); Wing T437.

following pages, this particular combination of biblical precedent and surgical metaphor provides one of several hallmarks of Royalist invective in the period.¹¹

My chapter aims both to add to this field of inquiry – the study of particular tropes, phrases, and rhetorical strategies employed in the propaganda wars of the mid-century – and to address a gap in the existing scholarship on the textual legacy of the English Civil War by considering its political and religious polemic from the Royalist perspective. It will therefore neither aim to address well-known Royalist texts like the *Eikon Basilike*, Clarendon's *History of the Rebellion*, or the various Royalist newsbooks that proliferated throughout the period, all of which have been examined comprehensively.¹² Nor does it aim to discuss the Cavalier poets. Instead, I propose to pay particular attention to little known, mostly non-literary texts written and published by a range of sometimes anonymous individuals with varied motivations, seeking to expand our understanding of 'how royalists approached and used this medium of communication [print]'.¹³ The picture that emerges will both reflect on recent scholarly constructions and studies of Royalism – specifically, the ways in which official and unofficial kinds of Royalist polemic interacted with and complemented each other in print – and add to what is already known about the textual output of Caroline loyalists especially in the 1640s and 1660s.¹⁴ In supplying

¹¹ On the politicised uses of Old Testament patterns of speech and behaviour in the writings of both Royalists and Parliamentarians, see Blair Worden, *God's Instruments: Political Conduct in the England of Oliver Cromwell* (Oxford: Oxford University Press, 2012 [1983]), ch. 1.

¹² The *Eikon Basilike* has generated much critical and bibliographical scholarship over the years. See de Groot, pp. 165-73; Sharon Achinstein, *Milton and the Revolutionary Reader* (Princeton: Princeton University Press, 1994), ch. 4; and Potter, pp. 170-79. Blair Worden has written extensively on Clarendon, most recently in *God's Instruments*, ch. 10. For a comprehensive study of the seventeenth-century news industry, see Joad Raymond, *The Invention of the Newspaper: English Newsbooks, 1641-1649* (Oxford: Oxford University Press, 1996). James Loxley's *Royalism and Poetry in the English Civil Wars: The Drawn Sword* (Basingstoke/New York: Macmillan, 1997) remains an important study of Cavalier poetry as 'a politically instrumental, self-reflexive poetics', p. 3.

¹³ McElligott and Smith, 'Introduction: Rethinking Royalists and Royalism', p. 10.

¹⁴ Lloyd Bowen has created a compelling panorama of sub-gentry Royalism and of the kinds of seditious utterances that formed part of its culture from surviving Upper Bench, assize, and quarter sessions records. See Bowen, pp. 47-48ff. Recent studies of Royalist literatures and experiences of exile include *Literatures of Exile in the English Revolution and its Aftermath, 1640-1690*, ed. by

this missing Royalist history of the Civil War, my chapter acts in a manner analogous to the iron hands I discuss in the following pages, seeking to restore a form of textual agency to the Royalist polemics of the period that has not featured prominently in scholarship – a form of textual agency, moreover, which Royalists themselves invoked throughout the mid-century, as I will demonstrate.

Looking towards the grammatical concept of *prosthesis* as an addition to the body of language, and towards the mechanical object as a material manifestation thereof, iron hands appear in two major configurations in the period, and both occur almost exclusively in Royalist literature: as part of the popular proverb, ‘God cometh with leaden feet, but he striketh with Iron hands’; and as symbols of rebellion, oppression, war, and tyranny derived in part from contemporary surgical procedure, in part from classical and biblical mythology.¹⁵ I begin my discussion by investigating the particular appeal early modern prosthetics held for Royalist writers, arguing that if the human hand could – uniquely – be conceived of as a powerful symbol of personal (and political) agency, metaphorical iron hands provided a means of figuring – and repairing – the impaired body politic of the Stuart dynasty on the printed page.¹⁶ We will see that by acting in a manner similar to the rhetorical device of synecdoche, artificial limbs embody the dream of transcending not only the

Philip Major (Farnham, UK/Burlington, VT: Ashgate, 2010); and Geoffrey Smith, *The Cavaliers in Exile, 1640-1660* (Basingstoke: Palgrave Macmillan, 2003). See also Sharon Achinstein’s *Milton and the Revolutionary Reader* (Princeton: Princeton University Press, 1994), which sets out ‘to picture the political subject from the perspective of the street’, p. 3.

¹⁵ The proverb seems to be in use throughout the early modern period. See for example Guy Miege, *A New Dictionary French and English, With Another English and French; According to the Present Use, and Modern Orthography of the French* (London, 1677), sig. V4^v; Wing M2016; or John Ray, *A Collection of English Proverbs Digested into a convenient Method for the speedy finding any one upon occasion; With Short Annotations* (Cambridge, 1678), p. 12; Wing R387. The precise origins of the phrase are uncertain. Tilley cites Erasmus’s *Adages* as the first recorded instance in the early modern period. Morris Palmer Tilley, *A Dictionary of the Proverbs in England in the Sixteenth and Seventeenth Centuries: A Collection of the Proverbs Found in English Literature and the Dictionaries of the Period* (Ann Arbor: University of Michigan Press, 1950), p. 260 (item G182, ‘God comes with leaden (woollen) feet but strikes with iron hands’).

¹⁶ On early modern state-body analogies, which combine ‘the concept of a nation-space’ and ‘the bodies of the people; both [...] ruled, interpolated, and constructed by the authority of the monarch’, see de Groot, pp. 12-13.

weaknesses and limitations of the human body, but of outwitting both history and fate. As such, the recuperative project of early modern prosthetics shares an aspirational goal with early modern mechanical culture more widely. Thus, although iron hands are neither exclusive to the experience or literature of the Civil War – nor indeed more prominent than other tropes – they do furnish writers with a unique analogue for the creation of artificial kinds of agency and identity. Throughout, missing arms, legs, and especially hands assert their symbolic power through the act of brutal dismemberment implicit in their very absence, a curious and often uncomfortable kind of rhetorical substitution that underwrites most of the texts under discussion in this chapter.

I then follow the rough order of the motif's usage, with images of iron-handed justice in the polemics of the 1640s and 1660s, followed by metaphors of iron-handed rebellion that gained particular currency during the Interregnum. We will discover that the former instances function predominantly as vehicles for the construction of Royalist identities, the articulation of Royalist destiny, and, after the Restoration, as a rhetorical strategy for rewriting the Civil War and Interregnum in terms of spiritual triumph, whilst the latter focalise a number of topical critiques of Parliament, the Commonwealth, and the Protectorate.¹⁷ Throughout, rhetorical patterns derived from proverbial and classical traditions combine with ideas of self-fashioning suggested by early modern prosthetics, underwriting Royalist attempts to literally graft meaning upon the experiences and events of the mid-century. As we will discover, in so doing iron hands generate a wider and thus far neglected pattern of Royalist dissent and seditious writing. This was designed to present the period 1640-1660 as a temporary divergence from the monarchical ideal of English history,

¹⁷ On Royalist attempts after 1660 to erase the republican legacy of the Interregnum from the cultural memory, see David Norbrook, *Writing the English Republic: Poetry, Rhetoric and Politics, 1627-1660* (Cambridge: Cambridge University Press, 1999), pp. 3-4.

and to suggest that if its body of language – the disrupted writing of Royalist history and identity – could be restored, so could the monarchy itself.

EARLY MODERN PROSTHETICS AND THE POLITICS OF IDENTITY

As indicated above, I begin my discussion by investigating the particular appeal early modern prosthetics held for Royalist writers. The practice of early modern surgery, especially insofar as it relies on prosthetics, touches upon the period's politics of identity in at least two distinct ways, providing practising surgeons with a positive narrative of cultural agency for their art, and their patients not only with surrogate limbs, but also with artificial and often extended kinds of agency and identity. In his epistle to Henry III of France that is prefixed to the *Works*, Paré, for instance, aligns the art of surgery with the humanist project of discovery and invention that underwrites much of the textual output of the Renaissance, contending that 'Antiquity may seeme to have nothing wherein it may exceed us, beside the glory of invention; nor posterity any thing left but a certaine small hope to adde some things'.¹⁸ By placing his artificial limbs in the context of the recuperative scholarly project of Renaissance humanism – itself a mechanism for supplying perceived intellectual deficiencies – Paré sets a precedent for theorising prosthetics in terms of an intellectual and textual kind of agency that Royalist writers went on to repurpose for political ends, as we will discover. Moreover, a strict division in his *Works* between prostheses 'made artificially of iron' for an affluent clientele worried about cosmetic appearance as well as functionality and wooden ones 'made for poore men',

¹⁸ Paré, sig. A^r. History bears out this claim. While modern prosthetics has evolved to the myoelectric, the basic shapes and mechanisms especially of above knee C-Leg prostheses have remained remarkably constant. The parallels between the designs for Paré's iron hand and one of the world's most advanced hand prostheses, the i-limb ultra, developed and manufactured by the Scottish-American company Touch Bionics, are particularly striking. See 'i-limb ultra', *Touch Bionics*, <<http://www.touchbionics.com/products/active-prostheses/i-limb-ultra/>> [accessed 7 June 2013].

serves to convey a sense of wealth and social status, the ingenuity of the inventor earning a reflected (or prosthetic) measure of glory for the wearer. This testifies to an economy of amputation that was highly sensitive to the early modern politics of identity.¹⁹

For early modern victims of dismemberment, meanwhile, artificial limbs both permanent and temporary (like the splints recommended for the amelioration of severe burns in Hildamus's *Experiments in Chyrurgerie* (1642)) play an important role in the process of rehabilitation – anatomically, cosmetically, and, more importantly still, psychologically.²⁰ John Woodall's case reports in the above-mentioned *The Surgeons Mate* are in many ways exemplary of early modern attitudes towards the relationship between prosthetics and what Alan Thurstan calls the 'psycho-spiritual sense of wholeness' that severe injury and amputation almost invariably seems to destroy.²¹ Writing about lower-leg replacements, Woodall states that:

by the help of Art, namely, of a hollow Case, or the like, with an artificial foot adjoined, a man may decently and comely walk, and ride, go over a stile, yea, and runne, and sit streight, and behave himself man like in Bed, and at board, and do good service for the defence of his Countrey, or of himself.²²

The prosthetic leg and foot described here not only restore the missing limb and thus the patient's ability to 'ride', climb, 'runne', and 'sit streight', but they also perform the cosmetic function of enabling a man to walk 'decently and comely'. Moreover, relating vigorous physical activity both out of doors and 'in Bed' to 'good service for the defence of his Countrey', Woodall clearly situates prosthetics within contemporary narratives of male virility and public service, perhaps thinking of the

¹⁹ Paré, pp. 881-83.

²⁰ Gulielmus Fabricius Hildamus, *His Experiments In Chyrurgerie: [...] Translated out of Latine by Iohn Steer, Chyrurgeon* (London, 1642), pp. 57-64; Wing F72.

²¹ Thurston, p. 1114.

²² Woodall, p. 396.

metal-reinforced prosthetic boots Charles I had relied on to correct the deformities caused in his ankles and legs by rickets.²³ No matter what the impulse, it seems to be this recognition of the non-surgical, ideologically and politically charged implications of prosthesis that accounts at least partially for the frequent appearance of surgical and prosthetic metaphors in the literature of the period.

However, because uniquely in human anatomy the hand acts as a perfect synecdoche not only for the human body, but also for both practical and abstract kinds of human agency, it generates more poetic hyperbole in the works of early modern surgeons than other human appendages or any prosthetic replacements thereof. In a chapter on finger amputation in his *Frenche Chirurgerye* (1598), Jacques Guillemeau (1550-1613), for instance, reverently writes of the hand as ‘an instrumente, of instrumentes’.²⁴ Paré confers similar significance on the human hand in his own definition of ‘Chyrurgerie’ in the *Works*:

CHYRVRGERIE is an Art, which teacheth the way by reason, how *by the operation of the hand* we may cure prevent and mitigate diseases, which accidentally happen unto [*sic*] us. Others have thought good to describe it otherwise, as that; it is the part of Physicke which undertaketh the cure of diseases *by the sole industry of the hand*; as by cutting, burning, sawing off, uniting fractures, restoring dislocations, and performing other works [...]. Chyrurgery also is thus defined by the Author of the medicall Definitions; *The quicke motion of an intrepide hand* joined with experience: or *an artificiall action by the hands* used in Physicke, for some convenient intent.²⁵

Surgeons, he concludes with the fourth-century Greek physician Herophilus, are ‘*The hands of the Gods*’ precisely because they are able to mobilise the astonishing human potential for ‘industry’ and ‘quicke motion’ in the service of ‘some convenient

²³ Charles’s rickets are thought to have been caused by a poor diet, exacerbated by lack of Vitamin D. The boots were made by Edward Stuteville, a London-based bone-setter, and are now housed at the Museum of London. See Charles Carlton, *Charles I: The Personal Monarch*, 2nd edn (London/New York: Routledge, 1995), pp. 2, 4.

²⁴ Jacques Guillemeau, *The Frenche Chirurgerye* (Dort, 1598), fol. 39; STC 12498.

²⁵ Paré, sig. B2^r. The italics are mine.

intent'.²⁶ Not only does Paré conceive of the 'intrepide' human hand in terms of a surgical instrument for mitigating, by means of 'reason', the accidents of nature to which we are subject; rhetorically, it also acts as a synecdoche for the entire art of 'Chyrurgery' he so elaborately praises. In other words, it enables both medical and textual kinds of 'artificiall action', simultaneously valorising surgical literature and writing by ingeniously marketing the *Works* as a textual substitute for practical demonstration.

In mid-seventeenth-century England, early modern notions of human agency attaching to the hand were repurposed for more directly political ends. Thus, if it was possible to tell the difference between a manual labourer and a scholar by the state of their hands, during the Civil War it became equally possible to identify a Royalist by his manicured fingernails, which grew fashionable as part of Royalist attempts to turn the body as a whole into a performance of dissent and a 'refutation of Roundhead otherness', as Jerome de Groot has observed.²⁷ And if organic hands could be groomed to express a particular idea of professional or even political identity, metallic hands, too, could be invested with symbolic meanings and enact covert forms of (textual) agency and identity particularly appealing to Royalist writers, as my next sources suggest.²⁸

Today, the prosthetic iron hand that the sixteenth-century German knight Gottfried von Berlichingen (c. 1480-1562), popularly known as Götz of the Iron Hand, had fitted after his own was hewn off during the Landshut War of Succession

²⁶ Ibid., sig. A3^r.

²⁷ de Groot, p. 103.

²⁸ For all this, possibly because they were difficult and expensive to manufacture – or indeed inefficient – fully articulated mechanical hands seem to have been rare, as James Cooke suggests in his *Mellificium Chirurgiæ. Or The Marrow Of Many good Authours* (London, 1648), p. 379; Wing C6012.

(1504-1505) is particularly well known (*fig 13*).²⁹ Although I have not found any substantial evidence as to whether and how the story of Berlichingen was received in early modern England, seventeenth-century readers of the Roman historians, especially of Pliny the Elder's universally revered *Natural History* (completed in 77 AD), would have been familiar with a similar case. Pliny's *History* appeared in an influential English translation in 1601, and includes an account of the life and military exploits of the Roman general Marcus Sergius, who lost his right hand during the Second Punic War (218-201 BC) between the Roman Republic and Carthage. Afterwards, until well into the sixteenth century, he was known for having 'the vse of 3. hands': a right hand, which he lost, a left hand, with which 'He fought in 4. sundrie battles', and 'An iron hand in stead of his right hand', with which 'He fought [...] at the siege of Cremona and tooke 12. places in Gaule'.³⁰ Pliny himself states that:

in my judgement verily, none may right and justly preferre any man before *M. Sergius* [...]. The second time that hee went into the field and served, his hap was to loose his right hand [...]. Howbeit, thus maimed and disabled as he was for to be a soldiour, he went many a time after to the warres, attended with one slave onely, and performed his devoire. [...] Foure times fought hee with his left hand only, until two horses one after another, were killed under him. Then he made himselfe a right hand of yron, which he fastened to his arme, and fighting with the helpe of it, he raised the seege from before Cremona, and saved Placentia. [...] To conclude, all others may vaunt verily, that they have vanquished men: but *Sergius* may boast, that he hath conquered and overcome even Fortune her selfe.³¹

It would seem that early modern readers agreed with Pliny's admiration for Sergius's steadfast resilience in the face of seemingly overwhelming adversity. In his *Heroicall Devises*, which appeared in English translation in 1591, Claude Paradin offers an

²⁹ Johann Wolfgang Goethe, *Götz von Berlichingen: Erläuterungen und Dokumente*, ed. by Volker Neuhaus (Stuttgart: Reclam, 1973), pp. 53-54, 92.

³⁰ S[imon] R[obson], *The Choise of Change: Containing the Triplicitie of Diuinitie, Philosophie, and Poetrie, short for memorie, Profitable for Knowledge, and necessarie for Maners* (London, 1585), sig. Gii^r; STC 21132.

³¹ *The History of the World. Commonly called, The Natvrall Historie of C. Plinius Secvndus. Translated into English by Philemon Holland Doctor in Physicke. The first Tome* (London, 1601), pp. 170-71; STC 20029.

important indication of how mechanical prostheses like Sergius's – and Pliny's assessment of what it communicated about his character – were perceived in the period.

Paradin paraphrases his classical source closely, but he also adds significantly to its effusive praise, portraying Sergius as the very embodiment of '*prowes and manhood, who vanquishing the violence of his fortune, made himself worthie of all praise and honor of those victories*'.³² Here, Sergius is clearly seen to define himself not only by his ability to fight efficiently, which the prosthesis enhances, but also by the iron will of which it is a material manifestation and extension. Both in Pliny and in Paradin, this will to conquer – both the enemy and 'the violence of his fortune' – reinforces his value as a man and as a citizen of Rome. In other words, the iron hand becomes a symbol of Sergius's identity as a soldier and military hero. In allowing him to make or remake himself, it constitutes a substitute form of psychosocial wholeness and public agency that also underwrites the Royalist polemics of the mid-seventeenth century, as we will discover shortly.

Male chivalric identity is a theme that runs strongly throughout the early modern experience of warfare. As Diane Purkiss writes, traditionally, war was conceived as 'a space where masculinity reaches its apotheosis'. At the same time, however, it was also a space of fissure, of fragmentation, and of crisis: the loss of faces, limbs, and other body parts, and with them, the ability to function within the normative framework prescribed by a martial code of masculinity, meant that inevitably, 'Breaking men become broken men'.³³ The story of Marcus Sergius as presented in Paradin corroborates such a reading, and so does Götz von Berlichingen's own memoir. Both men define themselves by their physical prowess,

³² *The Heroicall Devises of M. Clavdius Paradin Canon of Beauieu. [...] Translated out of Latin into English by P. S.* (London, 1591), pp. 278-79; STC 19183. The italics are mine.

³³ Purkiss, pp. 35, 40-41.

by their ability to wield a sword to maximum effect. Injured, in agony, and despairing of his future as a soldier and knight after sustaining the injury that lost him his sword hand, Berlichingen, for example, recalls praying for his own death. His will to live is restored only by the notion that even one single iron hand fastened to the arm of a righteous man will accomplish more than twelve hands on those of the unjust – a possible allusion to Matthew 5.30: ‘And if thy right hand offend thee, cut it off, and cast it from thee: for it is profitable for thee that one of thy members should perish, and not that thy whole body should be cast into hell’.³⁴ For him, the

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iron hand clearly represents more than a useful bodily tool: it manifests a spiritual quality, acting as a material sign and indicator of the presence of divine grace in his life. Like the story of Sergius’s victorious self-transformation, this passage in Berlichingen’s memoir likewise suggests that to a considerable extent, prostheses constituted a sense of psychic wholeness, expressing, as by synecdoche, the

³⁴ Extract from Berlichingen’s memoir, *Lebens-Beschreibung Herrn Gözens von Berlichingen*, first published by Georg Tobias Pistorius in 1731. Quoted in Goethe, *Erläuterungen und Dokumente*, pp. 92-94. Matthew 5.30 (KJV).

aspirations and identities, both public and private, of the individuals constrained to wear them.

As we saw earlier, Woodall establishes a causal relationship between the wearing of an artificial limb and the ability of a man to ‘behave himself man like in Bed, and at board’.³⁵ Gottfried von Berlichingen seems to cease to exist when his own hand is lost. However, as Götz of the Iron Hand he seems to transcend the infirmity of his own body, transformed by the substitution of an iron hand for the real one into a symbol of metallic superhuman perfection.³⁶ Victory over self, over the weakness of the flesh, but also, and more importantly, victory over adversity, over fate, even over death, is the determining factor in both Sergius’s and in Berlichingen’s response to the traumatic loss of limb.³⁷ Early modern prostheses thus achieve more than simply aiding the injured and maimed to ‘performe the functions of going, standing and handling [...] and undergoe our necessary flexions and extensions’.³⁸ Rather, they fill the gap left by the absent organic tissue with the transformative potential of human invention and resourcefulness given solid form, surpassing the original act of divine creation by rendering humanity’s inherent susceptibility to injury, illness, and death less devastating and final. In doing so, early modern prosthetics in general, and mechanical hands in particular, offered important models for processes of identity (trans)formation that went on to inspire Royalist

³⁵ Woodall, p. 396.

³⁶ On seventeenth-century ideas about ‘metallic life’ as an artificial perfection of human existence, see Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (London/New York: Routledge, 2007), pp. 168–69. During World War II, the German 17th SS Panzer Grenadier Division *Götz von Berlichingen* adopted his name and made his iron hand its symbol, a testament, albeit a problematic one, to its continuing appeal. See Thurston, p. 1115.

³⁷ The iron hands of death, time, and fate are a common trope in seventeenth-century drama. Among the many instances one could record here are, in chronological order, Thomas Dekker’s *Old Fortunatus* (London, 1600), sigs B4^v, E2^r; STC 6517; Philip Massinger’s *The Virgin Martir* (London, 1622), sig. I4^r; STC 17644; John Kirke’s *The Seven Champions of Christendome* (London, 1638), sig. F^r; STC 15014; and Thomas Powell’s *A Sanctuary for the Tempted* (London, 1679), p. 103; Wing P3075.

³⁸ Paré, p. 880.

attempts to mythologise, and cast in providential terms, not only the disastrous political and military defeats of the 1640s, but also and most especially the Restoration, as I show next.

THE IRON HANDS OF DIVINE JUSTICE

If in Berlichingen the loss of his right hand induced nothing less than a crisis of faith – of faith both in himself and in his spiritual destiny – the loss of Charles as the head of the royal body politic in 1649 engendered a comparable, collective experience of loss and disorientation in his supporters, giving rise to the so-called Royalist ‘poetry of retreat’ that critics have only recently begun to reappraise as a highly engaged form of literary activity.³⁹ In the Royalist invective that I examine here, this retreat takes the form of a polemically charged fiction of providential justice – and delayed vindication – epitomised by the popular proverb, ‘God cometh with leaden feet, but he striketh with Iron hands’. In what follows, I would like to suggest that it held particular appeal for polemicists in the period 1640-1660 who were engaged in the work of (re)writing the history (and future destiny) of Caroline England because it looks both towards the grammatical concept of *prosthesis* as an addition to the body of language, and towards the mechanical object as a material manifestation thereof. Thus, we will see how a variety of writers appropriate the proverb’s promise of divine retribution to vindicate Stuart rule, to refute Parliamentary justifications for taking up arms against an anointed monarch, and to articulate military defeat in terms of spiritual triumph. Throughout, ideas of artificial identity and surrogate agency suggested by early modern prosthetics sustain a Royalist ‘teleology or history of nation’ predicated upon the self-validating rhetorical structures of (Puritan)

³⁹ Sharpe, *Image Wars*, p. 305. See also McElligott and Smith, ‘Introduction: Rethinking Royalists and Royalism during the Interregnum’, p. 8.

prophecy.⁴⁰ As a rhetorical strategy for rewriting history, this acquires particular political currency after the Restoration.

The proverb, most commonly rendered as ‘God cometh with leaden feet, but he striketh with Iron hands’, occurs in several versions in a myriad of sixteenth- and seventeenth-century texts, most of them sermons, works of spiritual edification, or scriptural exegesis. Among the earliest instances are two sermons by the Elizabethan poet and clergyman Thomas Drant (c.1540–1578), dated 1570; the latest occurs in Ralph Cudworth’s (1617–1688) 1678 refutation of atheism, *The True Intellectual System Of The Universe*.⁴¹ Because the available material is overwhelming, I limit my discussion to texts with a discernibly political agenda, of which Wye Saltonstall’s (bap. 1602, d. after 1640) poetic *Complaint Of Time Against the tumultuous and Rebellious Scots*, is paradigmatic. Written and published in 1639 at the height of the Covenanter Rebellion, it sets up the proverbial iron hands of divine justice as a rhetorical pattern and mainstay of Royalist apology.⁴² Like Charles himself, Saltonstall is quick to denounce the political opposition as the worst of rebels, ‘who under pretence of Religion would ouerthrow the Hierarchy of the Church, pulling downe the house of God, and building Babels of their owne invention’, while unlawfully ‘resist[ing] the head of the Church in his Dominions’. Charles, meanwhile, appears as a paragon of patience and long-suffering civility. Only

[...] when his Grace found

⁴⁰ de Groot, p. 166.

⁴¹ Thomas Drant, *Two sermons preached, the one at S. Maries Spittle [...] and the other at the Court of Windsor* (London, 1570); sig. L3^v; STC 7171; Ralph Cudworth, *The True Intellectual System Of The Universe: The First Part* (London, 1678), p. 879; Wing C7471. A full-text search on EEBO alone has revealed thirty-nine sources in total for the period 1570-1680.

⁴² In 1637, Charles had attempted to impose the new Laudian Prayer Book on Scotland, only to meet with widespread resistance among its Presbyterian congregations, which led to the institution of the National Covenant, the reorganisation of Scottish government, open rebellion, and eventually to the Bishops’ Wars of 1639 and 1640. These not only coerced a defeated king into summoning Parliament, but set in motion the chain of events that would escalate into civil war in 1642. David Scott, *Politics and War in the Three Stuart Kingdoms, 1637-49*, British History in Perspective (Basingstoke/New York: Palgrave Macmillan, 2004), pp. 15-17, 20-25.

That Balme of mercy could not cure the wound,
Then our dread Sovereigne mindfull of his cause,
Went downe against those that did slight his lawes
Arm'd with his Iustice full of powerfull dread
For Kings have Iron hands, though feete of Lead.⁴³

Like the other texts I discuss here, this passage too alludes to the popular saying, 'God cometh with leaden feet, but he striketh with Iron hands', establishing a connection between the divine justice of proverbial usage and the 'Sovereigne' justice led into the field by Charles as God's deputy on earth, thus reinforcing a common absolutist trope.

Proverbs condense, or purport to condense, common experience into memorable and concise metaphorical forms, pretending to a kind of quasi-prophetic knowledge that precludes disproof. As such they might be considered prostheses in themselves, substitutes for a more substantial kind of knowledge. Indeed, they are impervious to criticism or deconstruction because the eternal truths about the human condition that they lay claim to cannot be empirically proven or disproven. As Lois Potter writes in a related context, 'proverbs in general, provide an almost tangible verbal reminder of their own contention: that tragic experience is not unique but part of human destiny'.⁴⁴ This is particularly true of the saying under discussion here, which evokes the goodness of providence and affirms its immanence as self-evident truth, of which divine justice is a primary function. Thus, when Saltonstall speaks of the royal 'cause', of slighted 'lawes', and the 'powerfull dread' of royal authority, when he moreover substitutes the word 'Kings' for 'God', he not only invokes divine retribution on the side of legitimate and wronged authority, but renders Charles its symbolic champion and agent. Royal justice against the Scottish Covenanters is thus rhetorically aligned with the processes and workings of divine justice in the material

⁴³ Wye Saltonstall, *The Complaint Of Time Against the tumultuous and Rebellious Scots* (London, 1639), sigs A^v, A3^r; STC 21643.5.

⁴⁴ Potter, p. 150.

world. This is commensurate with Caroline ideas about absolutist kingship, which derived Stuart claims to the English throne directly from God, interpreting the monarch as the instrument of divine providence on earth. As we will see, throughout the 1640s Royalist writers recruited the proverb for similar rhetorical purposes, seeking like Saltonstall to vindicate Stuart rule on the one hand, and to turn the military conflict Charles was losing on the battlefield into a narrative of spiritual triumph and Stuart ascendancy on the other.

Recent scholarship on the ideologically diverse phenomenon I have been referring to rather simplistically as Royalism has revealed that not all of Charles's supporters, or indeed the king himself, were by default absolutists, nor was 'every expression of antipathy to parliament or sympathy for the plight of the king [...] evidence of royalism', as McElligott and Smith explain.⁴⁵ A case in point is the propagandist John Vickers (1580–1652), whose political devotion to the Parliamentary cause stopped short at the imposition of the Westminster Engagement in 1649–50, designed to enforce loyalty to the Commonwealth and to render illegal any support for 'our Lawfull Sovereign King Charls the second'.⁴⁶ However, what is important here is that the proverbial iron hands of justice nevertheless seem to have offered a common rhetorical tool to certain Royalists throughout the 1640s, whether they were absolutists, constitutionalists, or loyalists. At the former end of the ideological spectrum is a sermon preached in 1643 at Norwich, entitled *Rex meus est Deus*. It links a general discussion of sin and punishment based on a slightly embellished version of the proverb to a highly topical apology for absolute kingship, no doubt invoked to void contemporary loyalist

⁴⁵ McElligott and Smith, 'Introduction: Rethinking Royalists and Royalism', pp. 8, 11–13.

⁴⁶ John Vicars, *Dagon Demolished: Or, Twenty Admirable Examples of Gods Severe Justice and Displeasure against the Subscribers of the late Engagement, against our Lawfull Sovereign King Charls the second* (London, 1660); Wing V298. This pamphlet is posthumous.

justifications for ‘rebellion’, ‘Schisme and Faction’ put forward by the

Parliamentarian opposition:

Who can enumerate your grosse enormities and crimes now rainging among us? How doth rebellion (which is as the sin of witchcraft) get a head, whilest Authoritie and Dominion is troden under-foot! How doth Schisme and Faction prevaile and increase, whilest order and decency is set at nought! How is Religion made with many, the Mask of Villany!⁴⁷

To the author, the Parliamentarian challenge to Caroline ‘Authoritie and Dominion’ seems particularly perfidious because it subverts the God-given order of civil society.

Earlier in the sermon, he contends that the king is and always remains ‘*Christus domini*, the Lords Christ then whom none is greater then *Christus dominus*, the Lord Christ himselfe’.⁴⁸ For this reason, it is neither ‘the wickednesse of the Prince, that can deprive him of his temporall jurisdiction, nor the goodnesse of the subject that can exempt him from his allegiance’; ‘as from God [the king] receives his power, so for the good or bad administration thereof he is to be accountable onely unto God, and not unto any mortall creature’.⁴⁹ Confronted with ‘rebellion’, ‘Schisme and Faction’ – and with the concomitant loss of ‘order and decency’ – the author takes solace in the notion that ‘though God hath leaden feete, hee hath Iron hands, though hee commeth very slowly, yet he payeth surely’.⁵⁰

By co-opting the trope of iron-handed justice into the rhetoric of absolutist kingship in this way, the author clearly seeks not only to vindicate the Royalist position and Charles himself, but to brand as illegal what he conceives of as a sacrilegious act of rebellion against the Lord’s anointed. As an attribute of divine, and by implication, royal authority, the proverbial iron hands of justice are made to

⁴⁷ G. D., *Rex meus est Deus. Or, A Sermon Preached at the Common Place in Christs-Church in the City of Norwich* (London, 1643), pp. 17-18 (page 17 is falsely paginated 16); Wing D2061. The pagination is highly irregular throughout. For a summary of the loyalist argument for rebellion, see de Groot, p. 9.

⁴⁸ G. D., p. 22.

⁴⁹ Ibid., pp. 19, 20, 22, 27.

⁵⁰ Ibid., p. 17.

act not only as a symbol of Stuart identity, but as a focal point for Charles's legal and spiritual claim to the English crown. More than a mere analogy for princely power, they endow his kingship with the spiritual authority of divinity. As 'the Lords Christ', Charles becomes a sacrosanct entity, the rebellion against which implies rebellion against God himself. As I pointed out earlier, proverbs are above all tautological: they appeal to common sense by invoking common experience. In doing the same, *Rex meus est Deus* offers an indication as to why this particular proverb proves so useful to the Royalist project. Not only does it share a self-validating kind of rhetoric with the ideology of Caroline absolutism, but it uniquely projects the promise of a slow-moving yet inevitable kind of royal justice into an undefined future. The underlying assumption – or rather hope – seems to be that the encoding of royal justice into the textual archive of proverbial usage will in some way make up, perhaps even substitute, for Royalist defeats on the political and military battlefields.

Throughout the 1640s, Royalists continued to look to absolutist arguments to refute and brand as unconstitutional the Parliamentary uprising which had, as they believed, 'stolne the *Kings Power* from Him, and fooled both your owne [Parliament's] and *His* to the *Scot*', as the anonymous author of my next source puts it.⁵¹ However, when the war effort began to falter in 1645 and ground to a halt after Charles's subsequent surrender in the following year, Royalist polemic acquired another, quasi-apocalyptic tone to which the proverbial iron hands of divine justice lent themselves particularly well. *A Letter Sent from a Gentleman in Oxford, To His Friend in London; Concerning the Iustice of the King's Cause* (1646), for example, assimilates the experience of political misfortune and military defeat into a wider

⁵¹ *A Letter Sent from a Gentleman in Oxford, To His Friend in London; Concerning the Iustice of the King's Cause* (Oxford, 1646), p. 3; Wing L1595.

providentialist pattern of Royalist political destiny and spiritual recovery. The letter emulates other similar ‘pamphlets which purport to be dialogues, or letters to “friends”’ designed for the sole purpose of ventriloquizing and thereby discrediting the political opposition – a common rhetorical strategy on both sides of the political fence, as Jason Peacey has observed.⁵² Here, the ploy allows the anonymous author to displace political confrontation to the printed page, and thereby to transform the recent and severe setbacks both on the military and political battlefields of the civil war into a textual performance of Royalist prophecy⁵³:

Goe on proud men, till you have made the Kingdome a deluge of Bloud; *rule* till you have undone both yourselves, and us; *but* remember the *God* that hath *Leaden Feet*, hath Iron Hands; and commonly *he* supplyes the slownesse of the one with the *severity* of the other, and always followes those *he* goes not with, pursues those with *his* judgements, he doth not lead with *his* mercies.⁵⁴

By summoning the linguistic authority of the popular proverb that underwrites the image of iron-handed retribution, the passage subsumes present Royalist failures into a redemptive narrative of spiritual reckoning, asserting a kind of textual agency by supernatural proxy: ‘my *beleefe* is, The *Sinnes* of the *Nation* have deserved a *Judgement*, and your *Rebellion* hath payd it; but my *hopes* are, when Gods Iudgements are past, he will burne the Rods’.⁵⁵ Political and civil unrest thus turn into portents of the mysterious workings of divine providence, allowing the author to invest the collapse of the Royalist cause with higher meaning. Amid the apocalyptic gloom of the above passage, the trope of God’s iron-handed judgement thus focalises

⁵² On dialogues and letters as rhetorical strategies in civil war polemics, see Jason Peacey, *Politicians and Pamphleteers: Propaganda During the English Civil Wars and Interregnum* (Aldershot, UK/Burlington, VT: Ashgate, 2004), pp. 255-56.

⁵³ Cf. Loxley, p. 234.

⁵⁴ *A Letter*, p. 6.

⁵⁵ *Ibid.* This strategy was not exclusive to Royalist commentary. The Parliamentary propagandist and moderate John Vicars attributes the evils of civil war to the ‘Pride, / Luxurie, Loosnes, and all sinnes besides’ generated during years of Jacobean ‘Plentie’ and ‘amiable Peace’. ‘Heav’n therewith offended, / Lets England see his judgements sore, intended’. John Vicars, *Prodigies & Apparitions Or Englands Warning Pieces Being a Seasonable Description [...] of Gods Wrath against England, if not timely prevented by true Repentance* (London, 1643), p. 14; Wing V323.

not only Royalist hopes for future restoration, but, like Götz von Berlichingen's artificial hand, transforms the painful admission of defeat into a prophetic vision of redemption and victory over an adverse fate.⁵⁶ As we will discover next, this was to acquire particular political currency in post-Restoration narratives of the Civil War and Interregnum.

Traditionally, religious prophecy had been – and remained – the province of seventeenth-century Puritanism. According to Nigel Smith, it generally referred to 'divinely inspired utterance, the prophet being God's agent for speaking to people' either by 'inspired ravings, dreams, or visions [...], or by inspired interpretation of the Bible'. But, and this is where Royalist prophecy as I discuss it here came into its own, 'there is no notion among the radical Puritans of the prophet as *vates* or inspired poet who can prophesy the future in a mythic vision'.⁵⁷ While it is true that Puritans pioneered the instrumentalisation of prophecy for political purposes, it was Royalist writers like the anonymous author of *The Tales and Jests of Mr. Hugh Peters* (1660) who fully realised the rhetorical potential not only of prophecy, but of prophecy that was 'recognisable as prophecy only with hindsight'.⁵⁸ As I will show next, in the immediate aftermath of the Restoration the proverbial iron hands of divine justice acted as an important pivot upon which Royalist prophecy of this latter kind turned. In these later texts, commentators seek not only to legitimise the newly restored monarchy, but also to depict the recent and inglorious experiences of the

⁵⁶ On prophecy as a recuperative strategy in the Royalist poetry of the period, see Graham Parry, 'A Troubled Arcadia', in *Literature and the English Civil War*, ed. by Thomas Healy and Jonathan Sawday (Cambridge: Cambridge University Press, 1990), pp. 38-55 (p. 45).

⁵⁷ Nigel Smith, *Perfection Proclaimed: Language and Literature in English Radical Religion 1640-1660* (Oxford: Clarendon Press, 1989), pp. 26, 28, 30, 32.

⁵⁸ A point in case is the Puritan prophet Anna Trapnel, who spent several days in January of 1654 at Whitehall, uttering allegedly divinely inspired prophesyings which were highly critical of Cromwell and the newly installed Protectorate, possibly at the instigation of Fifth Monarchists like the Independent preacher Vavasor Powell (1617-70), who had been arrested for openly opposing the Protectorate in late December 1653. For a full account of the episode, see Smith, *Perfection Proclaimed*, pp. 49-52; Potter, p. 149.

Civil War and Interregnum in the infinitely more favourable light of self-fulfilling prophecy.

The *Tales and Jests* is the first among many post-Restoration narratives to deploy this strategy. On October 9th, 1660, the Independent minister and Parliamentary agitator Hugh Peters (*bap.* 1598) was arrested and indicted for his involvement in the regicide. Peters had lobbied tirelessly for the execution of Charles I on January 30th, 1649, which he was unable to attend due to illness – a conspicuous absence that gave rise to the rumour that he was in fact the masked executioner who beheaded Charles.⁵⁹ The *Tales and Jests* indicate that nine days earlier, he was overheard preaching a sermon at Whitehall on Psalm 149.8 ('To bind their kings with chains, and their nobles with fetters of iron') by 'two Gentlemen', presumably Royalist sympathisers, who promptly proceeded to send Peters the following note:

Sir, *We return you thanks for this your pains
And hope you'l live your self to wear the Chains;
For if our Genius don't at this time falter,
Your merits well may claim both chain & halter.*⁶⁰

Whether there is any truth to this anecdote or not is immaterial; what is important is that Peters did 'live [...] *to wear the Chains*': within days of his arrest, in a very public display of royal justice, he was condemned, dragged to Charing Cross, hanged, drawn, and quartered. The author of the *Tales and Jests* comments laconically, though not without a certain amount of glee:

Thus did he that called his sacred Majesty a *Barrabas*, a murderer, and seditious, die for murther and sedition himself, so that the snare which he layd for another, hath catched hold of himselfe; in this may we see, that [...] Justice hath leaden feete, but Iron hands; And though vengeance treads slowly, it comes surely.⁶¹

⁵⁹ Carla Gardina Pestana, 'Peter [Peters] Hugh (*bap.* 1598, *d.* 1660)', *ODNB*.

⁶⁰ Verse 8 of the psalm is followed by the even more provocative line: 'To execute upon them the judgment written: this honour have all his saints. Praise ye the LORD', Psalm 149.9 (AKJV). *The Tales and Jests Of Mr. Hugh Peters, Collected into one Volume. Published by one that hath formerly been conversant with the Author in his life time* (London, 1660), p. 31; Wing P1720.

⁶¹ *Ibid.*, p. 32.

This evocation of historical hindsight both feeds and documents the prophetic impulse of the post-Restoration imagination. With the certainty of Royalist victory not only over Peters himself, but over the political system he represents, the mocking words allegedly written by the two anonymous gentlemen in 1649 reveal themselves as self-fulfilling prophecies strategically placed in order to suggest the inevitability of Peters's downfall. Meeting their prediction to the letter, his execution as a traitor becomes available for allegorisation as a providential event. The *Tales and Jests* thus harness the narrative gap between past event and the fulfilment of its prophetic promise in the present to align the Restoration with those Royalist invocations of manifest destiny that had sustained the rhetoric of Caroline kingship throughout the 1640s. Here, then, and in the texts I discuss below, the proverbial iron hands of divine justice act as metaphorical grafts upon the body politic of the restored and newly empowered Caroline monarchy, providing artificial textual enhancements of its executive powers.

James Heath's (1629?-1664) *A Chronicle Of The Late Intestine War In The Three Kingdoms*, first published in 1661 and reissued in expanded versions in 1675 and 1691, documents this strategy more fully. Like the *Tales and Jests*, it invokes prophetic destiny by enhancing the historical record with a metaphorical graft of proverbial and therefore self-evident truth, encoding the rhetorical authority of quasi-prophetic utterance into the narrative of Royalist history. Heath writes: 'Divine Vengeance had with a slow foot traced the murtherers of our Martyr'd Sovereign, and through several Mazes at last overtook them; the iron hand of Justice delivering them to the punishment due to that grand impiety'.⁶² A virtually identical rhetoric of

⁶² James Heath, *A Chronicle Of The Late Intestine War In The Three Kingdoms* [...]. *As also several Usurpations, Forreign Wars, Differences and Interests depending upon it, to the happy Restitution of our Sacred Sovereign K. Charles II.* (London, 1675), p. 456; Wing H1321.

inevitable historical progression characterises William Winstanley's (*d.* 1698) *Loyall Martyrology* of 1665, which includes a quasi-biographical account of those 'Accessaries notoriously Guilty in this Horrid Murther, and how Divine Vengeance found them out'. Writing about Sir Henry Mildmay (*c.* 1594–1664/5?), the former courtier and politician (who had acted as a judge in the High Court of Justice that condemned Charles, without, however, signing to his death warrant), Winstanley makes Heath's dramatic turn of phrase his own: 'most ungratefully (the worst of Vices) he Acted with a high hand against him; but divine Vengeance at last overtook him, and the Iron hand of Justice delivered him to the punishment [...] due to that grand Impiety'.⁶³ And so does the legal writer George Meriton (1634–1711?) in his *Anglorum Gesta* of 1675, where he looks back upon the 'happy Resturation' of the Monarchy as a 'great Mercy and Blessing', a mythic time of reckoning where 'the Judgements of God [began] to overtake many of those Capital Traitors' involved in the regicide, 'so that though divine Vengeance hath, many times Leaden feet, yet when it comes it hath Iron hands'.⁶⁴

The verb 'to overtake', conspicuous by its presence in all three of these histories, implies an inevitable causal relationship between past and present that places the dispensation of Stuart justice under the restored monarchy in a historical and rhetorical continuum with the Royalist apologies of the 1640s. All three chronicles dramatise the historical events leading up to and including the Restoration in terms of a prophesied and divinely favoured Royalist victory over adversity, and even fate itself. As textual prostheses, substituting for direct action, they fill the

⁶³ William Winstanley, *The Loyall Martyrology, Or Brief Catalogues and Characters of the most Eminent Persons who Suffered for their Conscience during the late times of Rebellion [...]. As Also, Dregs of Treachery: With the Catalogue and Character of those Regicides who Sat as Judges on our late Dread Sovereign* (London, 1665), pp. 144, 151; Wing W3066.

⁶⁴ George Meriton, *Anglorum Gesta, Or, A Brief History of England* (London, 1675), p. 379; Wing M1787.

historical gap between the execution of Charles and the Restoration with a notion of political agency that is textual and therefore able to operate retroactively on, and within, the historical narrative of the Civil War and Interregnum.

Lois Potter has argued that, ultimately, ‘casting the responsibility for [Charles’s] defeat and death onto Fate, rather than Parliament or the Army, is an obvious way of healing old discords within a comforting myth of the civil war which all sides could accept’.⁶⁵ Whilst I agree with her argument in general, the above sources do in fact reveal a slightly more complicated story, a story which, in a sense, prompts us to rethink the traditional scholarly narrative about the Civil War. Neither Winstanley nor Meriton or Heath’s ideologically inflected interpretations of the Restoration register any intention to let the political and religious divisions of the mid-century rest, let alone heal. But whereas the former two authors deploy the trope of iron-handed justice to turn the immutable facts of Royalist defeats and losses in the 1640s into timeless moral and spiritual triumphs, Heath’s *Chronicle* attempts something altogether more audacious: unlike the other sources I have discussed here, it exploits the ontologically vexed status of early modern prostheses to rewrite the Civil War and Interregnum as aberrations from an otherwise uninterrupted English history of monarchical government. I explain the rhetorical mechanism which enabled this remarkable metaphorical reversal below. For the moment, it is sufficient to point out that the *Chronicle* collectively refers to the regicide and to the subsequent political configurations of Commonwealth, Protectorate, and the short-lived second Commonwealth of 1658 and 1659 as ‘unexampled’ and detestable ‘stain[s]’ upon the honour of the nation. More than this, it presents England’s recent experiment in republicanism as a violent and sacrilegious mutilation wrought upon

⁶⁵ Potter, p. 202.

the nation's body politic, the same 'untamable force and injury' by which Charles I had first been deprived of his throne and which now requires public 'Sacrifices to the Law'.⁶⁶

As Kevin Sharpe maintains, and as the texts I have discussed so far seem to confirm, the Civil War was first and foremost 'a conflict over representation'.⁶⁷ Iron hands in their several proverbial configurations embodied this conflict, often by seeking to make up for Royalist defeats on the political and military battlefields by appeal to substitute forms of textual agency. We have seen how a variety of writers appropriated and invoked conceptual ideas relating to early modern prosthetics to vindicate Stuart rule and refute Parliamentary rebellion, to impose a narrative of moral and spiritual triumph upon Royalist defeats in the 1640s, and thereby to reclaim them for a prophetic, post-Restoration narrative of political and moral regeneration. I argued earlier in this chapter that prostheses provided those who had suffered loss of limb with a new or surrogate sense of self. In Götz von Berlichingen's case, the mechanical iron hand functioned as a psychological and rhetorical strategy for investing physical trauma with mythic purpose, transforming the experience of extreme violence into a kind of mechanical spiritual apotheosis. As we have seen, following the regicide and the Restoration this idea provided polemicists with an epistemological model for the articulation and (re)construction of Royalist identity – for a prosthetic kind of textual agency in the widest sense – allowing Royalists to graft meaning upon the vexed and vexing political history of the mid-century.

⁶⁶ Heath, pp. 457 (wrongly numbered 463), 329. Cf. Abraham Cowley, *A Poem On The Late Civil War* (London, 1679), pp. 7, 10; Wing C6679, in which he describes Parliament and its supporters as a rout of blood-thirsty 'Surgeons' inflicting unwarranted wounds on the body of the commonwealth by seeking 'Th' Ague to cure by bringing in a Feavor: / The way is sure to expel some ill no doubt, / The Plague we know, drives all Diseases out'. See de Groot, p. 161. For a critical edition of the unfinished epic poem see *The Civil War*, ed. by Allan Pritchard (Toronto: University of Toronto Press, 1973).

⁶⁷ Sharpe, *Image Wars*, p. 284.

OF MYTHS AND MEN: THE IRON HANDS OF REBELLION

Another set of metaphorical iron hands also owing imaginative debts both to early modern prosthetics and to biblical and classical traditions formed part of a different range of polemical initiatives conceived during the Interregnum. These were designed primarily to vilify the Parliamentary opposition as purveyors of rebellion and its attendant evils tyranny, oppression, and unjustly conducted war against royal authority.⁶⁸ Like James Heath's post-Restoration *Chronicle* of the Civil War, the texts I wish to discuss in this last part of my chapter draw upon the concept of prosthesis as an artificial and unnatural graft upon the body in order to mount a Royalist critique especially of the political and economic forms of oppression associated with the Commonwealth and with the Cromwellian regimes of the 1650s.

One of the most vitriolic and representative invocations of the trope survives in the form of a polemical treatise entitled *Cromwell's Bloody Slaughter-house*, originally written in February 1649, shortly after the execution of Charles I, by the moderate clergyman and Royalist John Gauden (1599/1600?-1662). It was first published – initially without the author's knowledge – in 1660 and characterises the two civil wars as a 'time of *Tyranny and Persecution*', the nadir of which was reached when their masterminds, the '*Schismaticall crew of Regicides*', seized Charles I in spite of royal concessions and in violation of 'the most *solemn Nationall security and Publick Faith*, which could be given or passe between a King and his

⁶⁸ Peter Heylyn's (1599-1662) *Rebells Catechism*, a polemical text about the evils of rebellion published in Oxford in 1643, provides an early example. Heylyn anatomises political dissent as rebellion of the heart 'against the authority and commands of the supreme power under which we live', rebellion of the tongue or 'a malicious defaming [...] of these Sovereign Princes to which the Lord hath made us subject', and '*Rebellion of the hand*', consisting of 'the composing & dispersing of false & scandalous *Books and Pamphlets*' and the '*levying of War against our Sovereign Lord the King his Realm*'. Peter Heylyn, *The Rebells Catechism* (Oxford, 1643), pp. 2-3, 5-6; Wing H1731A. Like all of the authors I discuss here, Heylyn clearly conceives of textual production in terms of political action with an impact comparable to '*Actual Rebellion*' or the levying of war.

Subjects'. Having done so, they then proceeded 'without any pretended Authority, [...] with [their] *Iron hands*, and *Adamantine hearts*, to ravish and pull him out of the arms and embraces of his Subjects, violently to hale and tear him from the reviving love and loyalty of the two Houses and his people'.⁶⁹

The tract, which seethes with righteous anger, mobilises an impressive array of common Royalist slurs, describing the Parliamentary opposition in general as 'the most ignorant, shallow, cowardly, cruel, weak, debauched and insolent fools or Athiests; Hypocrites, Traytors and Tyrants, that ever usurped power', and the regicides in particular as 'mercenary, unauthorised, and Tyrannous Sycophants, and Hucksters of Justice' who 'tempt [the people] with the name of *Liberty*' but have them oppressed 'under your Iron hands, and squeezed under your tyrannous wills'.⁷⁰ As an epitome of Gauden's energetic and inventive romp through the Royalist propaganda arsenal, iron hands furnish a particularly visceral metaphor for political oppression, standing in for the various evils introduced by Parliamentary tyranny – including persecution, disloyalty, licentiousness, and institutionalised injustice – thereby focalising the author's contempt thereof.

We saw in the first part of this chapter that metal prostheses, and iron hands in particular, formed part of a larger, predominantly positive cultural narrative before they were repurposed for polemical purposes by Royalist writers of the mid-seventeenth century. This raises the question that if wonder, admiration, and pride

⁶⁹ *Cromwell's Bloody Slaughter-house; Or, His Damnable Designes laid and practised by him and his Negro's, in Contriving the Murther of his Sacred Majesty King Charles I. Discovered. By a Person of Honor* (London, 1660), sig. A4^v, pp. 20, 22-23; Wing G351. Gauden went on to republish the manuscript under his own original title in 1661, where he explains how it was recovered. See John Gauden, *Stratoste Aitentikon, A Iust Invective against those of the Army, And their Abettors, who murdered King Charles I. [...] Written Feb. 10. 1648. By Dr Gauden then Dean of Bocking in Essex, now Lord Bishop of Exeter* (London, 1661), sig. A3^r; Wing G372. Apart from the prefatory matter, the two versions seem to be identical. Cf. his slightly earlier *Hiera dakrya. Ecclesiae Anglicanae Suspiria. The Tears, Sighs, Complaints, And Prayers Of The Church of England* (London, 1659), p. 614; Wing G359, which mounts a similar argument.

⁷⁰ *Cromwell's Bloody Slaughter-house*, pp. 26-27, 87.

was indeed the normative response to early modern prosthetics, as the surgical literature seems to suggest, and if the kind of iron-handed resolve valorised in the stories of Marcus Sergius and Götz von Berlichingen represented a virtue to be emulated, as the Royalist apologies of the 1640s and 1660s indicate, then how did iron hands become associated with the evils Gauden denounces, their polar opposites? And, of equal significance, are Sergius and Berlichingen's iron hands of the same type as the ones he invokes? The answer, paradoxically, is both yes and no.

Although hardly recognisable as the helpful tools envisioned by Paré, Woodall, and their contemporaries, Gauden's metaphorical iron hands do in fact hark back to the underlying conceptual idea of prosthesis as an artificial graft on the damaged and mutilated human body. Here however, it is reversed and allegorised in political terms as its extreme and aberrant opposite: if early modern surgeons looked to artificial limbs to restore the injured body to its natural beauty and smooth over its imperfections, here, as synecdochic symbols of the very violence that would 'ravish', 'pull', 'hale' and 'tear' the king from his subjects, iron hands are made to represent the very act of mutilation the effects of which prostheses were originally intended to correct. Paré's point of departure is the damaged and incomplete human body; Gauden's, by contrast, is the originally unspoilt monarchical body politic of the kingdom. The one is in need of, and profits by, artificial enhancement; the other is mutilated by it. Indeed, Pride's Purge and especially the beheading of the king, two very literal acts of political dismemberment that preceded the abolition of the House of Lords in March 1649, tear through Gauden's narrative like gaping wounds.⁷¹ As we will see, this kind of complex metaphorical reversal, the transmogrification of prostheses as symbols of individual spiritual and physical strength into metaphors of

⁷¹ For a succinct account of the events leading up to and the issues involved in the execution of Charles I see Blair Worden, *The English Civil Wars, 1640-1660* (London: Weidenfeld & Nicolson, 2009), pp. 98-101.

an aberrant political order – or rather, disorder – wrongfully grafted upon the violated body politic, would create a blueprint for Royalist critiques of the Commonwealth and Protectorate that emerged in the late 1650s and 1660s, and towards which James Heath’s above-mentioned *Chronicle* has already pointed us.

Exploitative and opportunistic though it may appear, the trope did in fact possess other pre-histories before Royalist writers of the mid-century combined it with notions of artificial enhancement suggested by early modern prosthetics and repurposed it for polemical ends. These are to be found among early seventeenth-century ideas about the relationship between man and wife – and by implication, between the family and the state – and in contemporary responses to classical mythology. Two brief case studies, chosen because they employ iron hands to particularly astonishing effect, will illustrate the point and, in doing so, indicate what precisely it was that enabled the metaphorical turn upon which Gauden’s pamphlet relies. These include a sermon published in 1623 by the Church of England clergyman, scholar, and sometime pamphleteer Thomas Gataker (1574-1654) entitled *A Wife Indeed*, and Francis Bacon’s *The Wisedome of the Ancients*, which was first published in English in 1619.

Although conservative in its outlook, Gataker’s sermon documents an unconventional mind with a penchant for unusual imagery. Harking back to Genesis, the author describes the proper relationship between man and woman in terms of an organic, quasi-symbiotic relationship, the natural balance of which is upset by uxorial disobedience:

Euerie *Wife* should bee then as *a part* of her *Husband*; as a *limme* of him that hath her. But the *Woman* that beareth the *Name*, and standeth in the *roome* of a *Wife*, but doth not the *office* and *dutie* of a *Wife*, is but as *an eye of glasse*, or a *siluer nose*, or an *iurie tooth*, or an *iron hand*, or a *wooden leg*, that occupieth the *place* indeed, and beareth the *Name* of a *limbe* or a *member*, but

is not truly or properly any *part* of that *bodie* whereunto it is fastned; it is but *equiuocally* so called.⁷²

Like the false Maria in Fritz Lang's *Metropolis* (1927), a deceptive gynoid or 'Maschinenmensch' unleashed upon a state of male dominance that is both sexual and political, Gataker's prosthetic wife parodies male fantasies about female submission, playing upon early modern anxieties about the female body and its ontological status as an imperfect version of the male.⁷³ This wife can never become 'truly or properly any *part*' of 'him that hath her'; like '*an iron hand, or a wooden leg*', she retains a degree of autonomy which denies possession and emphasises her inherently alien quality – a wife in name, but not in nature or in deed. He continues:

Yea, those *artificiall* and *equiuocall limbs*, though they bee not properly *parts*, nor stand the *bodie* in much stead: yet they are rather helpfull, than hurtfull or harmfull any way to it; they helpe to supply a *place* defectiue, that would otherwise stand vacant, and by supplying it, to conceale in part such *blemishes*, as would otherwise lie more open to the eye of others.⁷⁴

Clearly, Gataker has a low opinion of the usefulness of prostheses, especially when compared to the enthusiasm of a John Woodall. But, more pertinently, in his understanding, '*equiuocall limbs*' fulfil a positive aesthetic function in that they 'conceale in part such *blemishes*, as would otherwise lie more open to the eye of others'. The bad wife, however, actively imperils the delicate metaphorical body of the married couple not only by refusing to make herself subservient to her husband, but by refusing to become one with his flesh and thus perform her '*office and dutie*' – presumably in other ways than just the metaphorical. If Götz von Berlichingen's or Marcus Sergius's iron hands acted as focal points not only for articulations of personal and spiritual destinies, but for an astonishing literary and mythical afterlife,

⁷² Thomas Gataker, *A Good Wife Gods Gift: And, A Wife Indeed. Two Marriage Sermons* (London, 1623), p. 9; STC 11659.

⁷³ For a summary of the underlying assumptions, see Sawday, pp. 205-6.

⁷⁴ Gataker, p. 9.

Gataker's prosthetic wife represents a dysfunctional and sterile graft upon her husband's person and estate.⁷⁵

Like Gauden's *Bloody Slaughter-house, A Wife Indeed* exploits the complicated ontological status of early modern prosthesis to score a rhetorical point. This suggests not only that artificial limbs had a life in the public imagination that exceeded the relatively narrow scope of surgical manuals, but also that, given both Gataker and Gauden wrote from within a culture which regarded the psychosocial hierarchies of the family as a blueprint for political organisation, it also offers some indication as to how the trope of iron-handed rebellion might have migrated into the political and religious polemic of the mid-century.⁷⁶ As English kings and queens had insisted at least since Elizabeth I, the monarch was espoused to the commonwealth in the same way that a man was wedded to his wife, or indeed as Christ was to his universal church.⁷⁷ If uxorial disobedience was held to be sacrilegious (in that it upset the natural and divinely ordained relationship between man and woman), then the violent revolt of the political nation against the monarch was tantamount to anarchy. As the Jacobean minister Gabriel Price succinctly put it, invoking the proverbial iron hands of divine justice which I have already discussed in detail: 'The Last euill that [...] needeth iron hands to punish the wickednesse thereof, is the contempt for you, that sit in the high places. For the contempt of gouernment, is the contempt of God himselfe'.⁷⁸ Here as in the above-mentioned 1643 sermon, *Rex meus est Deus*, to rebel against the prince is to rebel against the order of the universe; revolt is evil because it is in unnatural violation of the values that uphold

⁷⁵ Ibid.

⁷⁶ On the family-state analogy in seventeenth-century political thought, see Norbrook, pp. 114-16. Susan Dwyer Amussen gives a fuller account in *An Ordered Society: Gender and Class in Early Modern England* (Oxford/New York: Columbia University Press, 1988), ch. 2.

⁷⁷ Cf. Sharpe, *Image Wars*, p. 331; *Elizabeth I: Collected Works*, ed. by Leah S. Marcus, Janel Mueller, and Mary Beth Rose (Chicago/London: The University of Chicago Press, 2000), pp. 59, 65.

⁷⁸ Gabriel Price, *The Laver Of The Heart; Or Bath of Signification* (London, 1616), p. 133; STC 20306.

the early modern family, and, by analogy, the state.⁷⁹ I would therefore argue that Gataker's ingenious and pioneering use of prostheses in general, and of iron hands in particular, as metaphors for social disintegration can explain at least partly why the trope appealed to Royalist polemicists invested in the idea of marriage as a political figure.

Four decades later this idea reoccurs in the first part of the philosopher and theologian Henry More's (1614-87) thinly veiled critique of Catholicism, *A Modest Enquiry Into The Mystery of Iniquity* (1664), which was published in the year of the Conventicle Act, a new legislative initiative intended to curb nonconformist sectarianism by prohibiting large gatherings and to strengthen the position of the established church as conceived under the various acts of parliament comprised under the so-called Clarendon Code.⁸⁰ A former Cromwellian, life-long Latitudinarian, and supporter of the restored national church, More showers scorn on a Popish and 'elated Pseudo-Clergie' who boast

That they are, as it were, all of one piece, firmly joined each part to another, though not by any tie of Ingenuity and Love, but riveted and nailed together by the iron hand of Necessity and Tyrannical Force; Fear of extremity, Joynt-interest, and Oaths of absolute Obedience to an Infallible Power.⁸¹

The text is less concerned with the state of rebellion itself than with the oppressive techniques employed to stifle dissent, especially under an apostolic form of church government. However, even if it pursues a very different agenda, and even if its concerns are of a different age than those addressed in Gataker's marriage sermon,

⁷⁹ The author of *Rex meus est Deus* invokes primogeniture to justify the monarch's absolute dominion, p. 19.

⁸⁰ Molly McClain provides a succinct summary of the various acts constituting the Clarendon Code in *Beaufort: The Duke and his Duchess, 1657-1715* (New Haven/London: Yale University Press, 2001), pp. 71-72.

⁸¹ Henry More, *A Modest Enquiry Into The Mystery of Iniquity, The First Part, Containing A Careful and Impartial Delineation of the True Idea of Antichristianism In the Real and Genuine Members thereof* (London, 1664), p. 150; Wing M2666.

the *Enquiry* nevertheless emulates the rhetorical ploy used to such startling effect in *A Wife Indeed*.

Like Gataker, More juxtaposes two conflicting ideas about communal identity: one ‘all of one piece, firmly joined each part to another’, the other mechanically assembled and brutally ‘riveted and nailed together’ by ‘the iron hand of Necessity and Tyrannical Force’. While the former naturally extends from conviction, the ‘tie of Ingenuity and Love’ that also holds together both Gataker’s married couple and Gauden’s body politic, the latter is artificially imposed by an absolute authority interested not in consent, but in the mere display or appearance of conformity. Indeed, there is something of Frankenstein’s monster in the unnatural and jarring composition of this ‘*Leviathan*’ or Catholic ‘Pseudo-Clergie’; in fact, the *Enquiry* advances an argument about free will, moral agency, and individual and paternal responsibility long before Mary Shelley’s unfortunate Creature – ‘riveted and nailed together’ by the ‘tyrannical Force’ of Frankenstein’s hubris – went out to pick up its unlikely copy of *Paradise Lost* in the dark wood of its post-natal confusion.⁸² More significantly, More’s critique of spiritual oppression as a monstrous deformity inherent in the very structures and dogmata of the Catholic Church indicates that Gataker’s original analogy retained its currency throughout the seventeenth century, indeed, that the idea of disfiguration implicit in the concept of early modern prosthetics provided Royalist writers of the mid-century with a rhetorical model for the denunciation of spiritual disingenuousness and political tyranny – a concept I examine in more depth in Chapter 5.

An entirely different kind of monster derived from classical mythology offers another, equally important textual precedent for the trope of iron-handed rebellion,

⁸² Ibid., pp. 149-50.

and is painted in particularly vivid colours in Francis Bacon's *The Wisedome of the Ancients*. In it, he identifies the monstrously misshapen figure of Typhon, the last son of the Earth and of Tartarus and the anarchical other of legitimate Olympian rule, as an archetypal rebel, dissident, and tyrant. Indeed, the imagery associated with Typhon furnishes Protestant writers across Europe with a highly versatile metaphor for 'sedition', 'disloyalty', and 'horrid treason', providing especially the later seventeenth century with a powerful image for schism, revolution, and the usurpation of royal power.⁸³ However, of the many authors who invoke Typhon throughout the seventeenth century, Bacon is the only one to invest this archaic monster with iron hands. Under the heading 'TYPHON, or a Rebell' he explains not only the machinery that drives rebellion – that is, popular discontent with tyrannical rule – but maps its forms onto the mythological body of the fearsome giant:

open Rebellion, [...] is represented by the monstrous deformity of *Typhon*: his hundred heads signifie their deuied powers; his fiery mouthes their inflamed intents; his serpentine circles their pestilent malice in besieging; his yron hands, their merciles slaughters; his Eagle tallents, their greedy rapynes; his plumed body, their continual rumors, and scouts, & feares and such like.⁸⁴

Every one of Typhon's physical attributes seems carefully selected to represent the corresponding political defects of internal division, seditious speech and incitement of the masses, malice, violence, oppression, and confusion. As Kevin Sharpe maintains, the association of rebellion with tyranny was to become one of the most popular rhetorical manoeuvres deployed by Royalists against Parliament in the early

⁸³ Pierre Mathieu, *The Heroyk Life and Deplorable Death Of The most Christian King Henry the fourth*. [...] Translated by Edward Grimestone, Esquire (London, 1612), p. 34; STC 17661. Thomas Scott, *Sir Walter Rawleighs Ghost, Or Englands Forewarner. Discouering a secret Consultation, newly holden in the Court of Spaine* (Utrecht, 1626), p. 33; STC 22085. James Bernard, *A Poem Upon His Sacred Majesties Distresses, And Late Happy Restauration* (London, 1660), sig. A2^r; Wing B1995. Cf. Edward Hyde, *The True Catholicks Tenure, Or A good Christians certainty which he ought to have of his Religion, and may have of his salvation* (London, 1662), p. 234, Wing H3868; and Charles Cotton, *The Confinement. A Poem, with Annotations* (London, 1679), p. 76; Wing C6385.

⁸⁴ Francis Bacon, *The Wisedome of the Ancients* (London, 1619), p. 7; STC 1130.

1640s and beyond.⁸⁵ But it is Typhon's conspicuous prosthetic hands that generate particular polemical effects not only here, but also in the Royalist invective of the Interregnum. In Bacon, they serve several related purposes: to heighten the monster's physical deformity; to foreground the violent incongruity implicit in its random assembly of parts; and, above all, to emphasise the artificial, unnatural, and self-contradictory nature of the giant's body and the unnatural political state of affairs it allegorises. In doing so, the image successfully synthesises previously discussed ideas about artificial limbs and contemporary notions about political unrest as a form of mutilation inflicted upon the commonwealth, presenting the monstrous state of politically motivated rebellion and its attendant evil, oppression, as an equally monstrous and aberrant graft upon the body politic of the nation.

I would suggest that it is for this reason that the image appeals to Royalist polemicists of the 1650s, who are already busily engaged in the task of rewriting the history both of the Civil War and of the Interregnum as nothing but a temporary deviation from rightful monarchical rule. Particularly articulate among these is an anonymous 1659 tract entitled *Englands Remembrances*, which was written in anticipation of the impending Restoration of Charles II. The short manifesto soundly lambasts the 'varieties of mock Parliaments' introduced under the Cromwellian Protectorate 'to color there wickednes, and to make monstons [*sic*] Courts and constitutions, only to serve their own lust, ambition, and Avarice'. These unnatural innovations have 'destroyed the ancient, safe, healthful, and fundamentall constitution of *England* by King, and Parliament', substituting 'great uncertainties, both of death, sudden changes, and alterations'. Alluding, like Gauden, to Cromwell and the role he and his supporters played in 'that horrid, and Barbarons [*sic*] Act', the

⁸⁵ Sharpe, *Image Wars*, pp. 299-301.

execution of the king, the author invokes the spectre of iron-handed oppression: ‘can ye expect justice from them who make themselves judge and party, whose iron hands, you have sufficiently felt’.⁸⁶ Built ‘upon the Principles of Injustice, Avarice, and Ambition’ and propelled towards certain ruin by the usurpers’ unquenchable thirst for personal gain, this highly irregular state of affairs renders ‘*England* in Conclusion, the most miserable of the 3. nations’, prompting an attention-grabbing warning to the effect that if ‘the pride, malice, fury and revenge of Scotch, Irish, and Forrainers, fall on it, [...] it may be harraced, with iron hands, and hearts’.⁸⁷

Englands Remembrances abounds in colourful passages like these, all of which present the several republican governments installed under Cromwell’s political aegis as hotbeds of innovation, tyranny, monstrosity, and institutionalised forms of injustice. Driven by private ambition and avarice, they result in violent mutilations of and disfiguring grafts upon ‘the ancient, safe, healthful, and fundamentall constitution of *England*’. Here, then, is the Cromwellian state in its most terrible incarnation as iron-handed and bloody-minded Typhon, the archetypal rebel, tyrant, and political miscreant – accusations that tie in neatly with common accusations against Cromwell as a counterfeit or prosthetic king subsuming quasi-monarchical authority.

The near-contemporary and equally anonymous *Apologie and Vindication Of the Major part of the Members of Parliament* (1660), as well as John Fell (1625-86), the future bishop of Oxford’s *The Interest of England stated* (1659), deliver similarly poignant assessments both of the Interregnum in general and of Cromwell’s political career in particular, developing accusations of cronyism that are implicit in *Englands Remembrances* into a full-blown critique of state-sponsored corruption. *The Apologie*

⁸⁶ Anonymous, *Englands Remembrances* (London, 1659), pp. 1, 6; Wing E3038.

⁸⁷ Ibid., pp. 10-11 (page 11 is wrongly numbered 4). The pagination is irregular throughout.

and Vindication, for example, states that ‘the expulsion of many by a few, gave opportunity, and means, and encouragement to one to Vsurp, that such usurpation begat emulation in those that had been his equals’, leading to ‘revolutions’ which saw ‘the interests of the Nations [...] suspended, or pursued by contraries’. As a result,

every degree and society of men, the whole Nobilitie, the body of the Gentry, and the Commons, and indeed almost all such as were ingaged in the War upon the Parliaments account before 1648. do with one voice and consent as far as they dare, being kept under by an iron hand, presse and sollicite the Restauration of a full Freedom to the Parliament.⁸⁸

Here, the image of the iron hand serves to accentuate – perhaps puns on – an underlying charge of heavy-handedness that is latent in much of the Royalist invective against the Cromwellian administration. As Kevin Sharpe explains in his magisterial study of the Caroline government, it was popular discontent with the imposition of controversial fiscal and religious policies especially in the localities, with excessive state regulation, with abuses of judicial authority, and above all, with the small coterie of councillors and favourites surrounding Charles, that inflamed the political situation prior to the outbreak of open war in 1642.⁸⁹ Branding the Cromwellian state as its equally corrupt successor, an illegal conglomeration of vested interests held together by the iron-fisted rule of a political elite heavily reliant on intimidation and censorship, the anonymous author of the treatise calls into question its very *raison d’être*.⁹⁰ Obadiah Walker (1616-99), the future head of University College, Oxford, puts his concerns about intellectual oppression in these memorable terms: ‘as [the present authorities] have, with [Midas], Golden Hands, to

⁸⁸ Anonymous, *An Apologie And Vindication Of the Major part of the Members of Parliament* (London, 1660), p. 13; Wing A3542.

⁸⁹ Kevin Sharpe, *The Personal Rule of Charles I* (New Haven/London: Yale University Press, 1992), pp. 925-31, 949. Sharpe argues that whilst these constituted real grievances, they did not contribute greatly to the political breakdown of the early 1640s. See pp. 940-54.

⁹⁰ On Parliamentary and Royalist attitudes towards press control and censorship, see Peacey, pp. 331-32.

gratifie pens steeped in oile, which flatter them: so also they have Iron Hands, to terrifie pens dipped in gall, which flaunt them’, evoking a corrupt vision of Sidney’s ideal golden world of words where, instead of ‘freely ranging onely within the Zodiack of his owne wit’, the poet’s work is circumscribed by party-political interest and thus doomed either to flattery or terror.⁹¹

In *The Interest of England stated*, moreover, a treatise conceived ‘to justifie the Necessity of bringing in the King, in reference to the private concerns of every party in the Nation’, John Fell shines a similarly unflattering light not only upon Cromwell himself, but upon the army’s military administration of the country: ‘The old Protector made them States and properties, not only to assist his Tyranny, [...] But did it also to ease himself of such of them, as had more honesty, wit, or courage, then he thought fit for his purposes’.⁹² With a striking talent for economic analysis, Fell links the systemic failures of the Cromwellian Protectorate to endemic corruption both in the national and local governments, emblematised by ‘the cruel exactions and gripes of [...] a Publicans iron hands’; in his contemporaneous treatise, *Considerations Touching the Likeliest Means to Remove Hirelings from the Church* (1659), John Milton was making a similar complaint about enforced tithes and local corruption from the other side of the ideological fence.⁹³ Together, Fell’s *Interest of England stated* and the anonymous *Apologie* thus document another important

⁹¹ Obadiah Walker, *ΠΕΡΙΛΑΜΜΑ ΕΠΙΔΗΜΙΩΝ: Or, Vulgar Errours in Practice Censured. Also The Art of Oratory, Composed for the benefit of young Students* (London, 1659), sig. A3^v; Wing W408. Sir Philip Sidney, *An Apologie for Poetrie* (London, 1595), sig. C^v; STC 22534.

⁹² John Fell, *The Interest of England stated: A faithful and just Account of the Aimes of all Parties now pretending* (London, 1659), pp. 10, 12; Wing F613.

⁹³ Laura L. Knoppers, ‘Likeliest Means to Remove Hirelings’, in *The Milton Encyclopedia*, ed. by Thomas N. Corns (New Haven/London: Yale University Press, 2012), p. 219. Fell’s image forms part of his attempt to dissuade one of his interested parties, the Anabaptists, from insisting on the abolition of tithes. The passage in question reads: ‘all it will do must be this, to translate their payments from the Clergy to State farmers. And by that time they have tasted the difference between the precarious collections, and almost begging of a Minister, and the cruel exactions and gripes of, of [*sic*] a Publicans iron hands, I dare promise for them, they will heartily unwish, all their unreasonable, and ill grounded desires in that behalf’. Fell, p. 11.

polemical context in which iron hands attained prominence as a rhetorical tool: while in the various Royalists texts I have discussed so far, they featured as artificial, even monstrous, appendages symbolising the disfiguring influence of either spiritual or political rebellion upon the body politic of the nation, here they act as metaphors for economic oppression and its attendant evils, corruption and political instability.

Earlier in this chapter I postulated that the image of iron-handed rebellion and tyranny was among the most prevalent metaphors upon which Royalist critiques of Parliament, the Commonwealth, and the Protectorate depended, and that it synthesises ideas derived from the practice of early modern surgery and from older models of rebellion transmitted both in proverbial usage and in classical mythology. However, whilst the various texts I have discussed in this chapter corroborate both this claim and its corollary – that as a political metaphor, iron hands featured predominantly in Royalist polemic – there are a few remarkable exceptions to the rule which complicate this narrative. In closing, I want to briefly discuss a particularly bitter poem entitled *The Souldiers sad Complaint* (1647), written by a disenchanted Parliamentarian identified only as I. H..⁹⁴ In it, he invokes the iron hands of oppression to highlight the havoc wreaked upon the neglected body of the soldiery by petty infighting among the various factions then prominent in Parliament, addressing himself to that ‘high palmed STATE, made GODS: no lesse; / And only happy through our wretchednesse’, which encouraged its soldiers to ‘sweat in bloud’ and ‘purple gore’ but now, a hard-won victory achieved, refuses ‘our deare earn’d

⁹⁴ Two others I have been able to identify are John Goodwin’s *Hybristodikai, The Obstrvctovrs of Justice. Or A Defence of the Honourable Sentence passed upon the late King, by the High Court of Justice* (London, 1649); Wing G1170; and *A Sermon Preached to the Honourable House of Commons, In Parliament Assembled: On January 31. A day of Solemne Humiliation* (London, 1649) by the Independent minister John Owen (1616-83); Wing O805.

pay'.⁹⁵ Stricken with poverty, hunger, neglect, and disillusionment, the anonymous soldier lays bitter charges of cruelty, 'great ingratitude', and most importantly, of envious 'Tyranny' at the door of his political masters, summoning the very trope so popular with contemporary Royalist polemicists:

We that have spent
Our best of Fortunes for a PARLIAMENT?
[...] That we should suffer? that we should be crusht
With those iron hands (though guilded with our bloud,
Not seeking others, but their owne selfe-good)
We have upheld?⁹⁶

Conjuring the pitiful spectacle of veterans' 'naked Bodies, broken Legges, and Armes' and 'carved Limbs', the author implies that, ultimately, it is not warfare but the internal divisions and partisan interests addling the Parliamentary cause that are to blame for the dismemberment of the nation's body politic (ll. 17-18).⁹⁷ With an ingenious sense of theatricality, but without disowning its author's political allegiances, the poem thus uses the iron hands of political oppression as a focal point for social commentary that is not merely polemical, but seems to be driven by genuine disillusionment and the desire to effect parliamentary reform.

This noteworthy instance of the iron hand motif in *The Souldiers sad Complaint* illustrates very clearly that the trope of iron-handed oppression was also available to Parliamentary writers who pursued particular political agendas, especially since the Baconian anatomy of politically motivated rebellion, conceived long before the collapse of Caroline kingship, retained its currency throughout the seventeenth century. Indeed, as David Loewenstein reminds us, the rhetoric of

⁹⁵ As Worden explains, 1647 saw the emergence of the new model army 'as an autonomous and resolute political force'. Following Charles's defeat, surrender to the Scottish army, and eventual imprisonment at Holdenby House, a power struggle between various Parliamentary factions ensued at Westminster, with which the mutinous army's struggle over the payment of its soldiers became entangled. Worden, *The English Civil Wars*, pp. 86-87. I. H., *The Souldiers sad Complaint* (London, 1647), ll. 13-14, 3, 11, 24, 42-43, 30; Wing H49. Subsequent citations are provided in the text.

⁹⁶ *Ibid.*, ll. 1-2, 20-23.

⁹⁷ Worden suggests that by the end of 1648 another civil war between Independent and Presbyterian factions seemed possible. Worden, *The English Civil Wars*, p. 89.

rebellion was invoked by both political parties throughout the Civil War, a supreme example of the ‘reversibility of polemical language’ during that period.⁹⁸ But as what has gone before suggests, the trope seems to have had its most active life in Royalist polemic. There, we have seen it act as a visceral metaphor for political oppression, as well as a rhetorical strategy for criticising and delegitimising the Cromwellian governments of the 1650s as a series of violent injuries unlawfully inflicted upon the body politic of the Stuart dynasty. Throughout, the figure of iron-handed rebellion furnishes the Royalist cause with a polemical counter-narrative that enacts on the printed page those triumphs its champions were denied on the military and political battlefields of the Civil War.

CONCLUSION

Throughout this chapter I have argued that early modern prostheses, specifically, mechanical upper limb replacements such as the intricate iron hands designed by the French surgeon Ambroise Paré and his seventeenth-century English admirers, asserted a powerful influence upon the cultural imagination of the period. As I have demonstrated, in the mid-seventeenth century Royalist writers across the ideological spectrum recruited the metaphorical potential of early modern prosthesis for the related purposes of self-representation and polemical attack. In fact, in their various proverbial and metaphorical configurations – inherited partly from contemporary surgical manuals, partly from biblical and classical tropologies still current in the seventeenth century – iron hands provided a rich source of imagery for Royalist critiques of Parliament, the Commonwealth, and the Protectorate. During the 1640s and after the Restoration, the proverbial iron hands of divine justice acted as vehicles

⁹⁸ David Loewenstein, *Representing Revolution in Milton and His Contemporaries: Religion, Politics, and Polemics in Radical Puritanism* (Cambridge: Cambridge University Press, 2001), p. 178.

for the construction and narration of Royalist identity, the vindication of Stuart rule, and the articulation of military and political defeat as spiritual triumph. As such, they served to reclaim the trauma of the mid-century for the post-Restoration project of mythologising both the Civil War and the Interregnum in terms of manifest destiny. At the same time, polemicists exploited the ontologically vexed status of artificial limbs not only to vilify the Parliamentary opposition as iron-handed, bloody-minded tyrants and oppressors, but also to reconfigure the economic, religious, social, and political changes precipitated by the several Cromwellian administrations of the 1650s as artificial and unnatural grafts upon the nation's mutilated body politic.

As indicated throughout, there is a larger point to be made here about the mutually constitutive relationship between early modern technologies and the period's literature which this thesis investigates. The human hand represents both the most important practical tool or instrument available to man, as Guillemeau and Paré insist, and an abstract symbol of human agency and productivity. Throughout this chapter, I have argued that the technological solution to physical impairment envisioned in early modern surgery books furnished Royalist polemicists with a rhetorical response to political disenfranchisement. However, I would also suggest that the tropes I have discussed in this context reveal something not only about the psychology and metaphorical composition of Royalist propaganda, but about early modern literature in general: for if prostheses restored agency to missing limbs and thus acted as focal points for fragmented and traumatised early modern selves, their metaphorical counterparts made it possible for writers to reclaim the written word as a substitute or replacement for political intervention.⁹⁹ The close relationship of

⁹⁹ Peacey, p. 250.

language and action as virtually identical forms of public intervention in the early modern period has long been recognised: as Nigel Smith has argued, ‘the hostile fictions which pamphleteers were able to project of their enemies were an effective means of political and religious action’.¹⁰⁰ Here, I have attempted to document some of the more interesting – and thus far unexamined – rhetorical structures that underwrite the construction of literary agency in the period.

In the next chapter, we will discover how a related vision of mechanised humanity shapes Milton’s various polemical bids to establish authorial control over the self-validating rhetorical mechanisms that feature so prominently in the Royalist polemic of the period, some of which I have discussed here. In *Areopagitica* (1644), he famously wrote:

books are not absolutely dead things, but do contain a potency of life in them to be as active as that soul was whose progeny they are; [...]. I know they are as lively, and as vigorously productive, as those fabulous dragon’s teeth; and being sown up and down, may chance to spring up armed men.¹⁰¹

After everything this chapter has argued about Royalist agency in print, it is well to remember that it was one of Charles’s political opponents who realised the potential of ‘books’ as ‘armed men’ and effective agents in the rhetorical battles of the mid-century most fully. But the predominance of Milton and of the Parliamentary tradition of writing he represents in literary scholarship illustrates very clearly the need to acknowledge alternative (Royalist) textual histories of the Civil War, one of which I have sought to uncover – or, rather, to restore to its rightful place – in these pages.

¹⁰⁰ Nigel Smith, *Literature and Revolution in England, 1640-1660* (New Haven/London: Yale University Press, 1994), p. 9.

¹⁰¹ John Milton, *Areopagitica*, in *The Complete Prose Works of John Milton*, ed. by Don M. Wolfe, 10 vols in 8 (New Haven: Yale University Press/Oxford: Oxford University Press, 1953-82), II, pp. 480-570 (p. 492).

5. MILTON'S MECHANICAL MEN: IDEAS OF THE AUTOMATON IN THE RELIGIOUS AND POLITICAL PROSE

In the previous chapter, I demonstrated how Royalist apologists of the mid-seventeenth century looked to early modern prosthetics in order to turn the traumatic dismemberment of the monarchical body politic of Stuart England into a redemptive narrative of political and spiritual restoration. Here, I explore a related strategy in the Parliamentary polemics of the period, specifically in the religious and political prose of John Milton. As we will discover, throughout his anti-prelatical and regicide tracts he adopts existing and emergent notions about the automaton, in particular, to challenge the various rhetorical mechanisms that underwrite both Caroline policy and the literary project of Royalist apology in the 1640s and 1650s. Revisionist critics including Karen Edwards, Stephen Fallon, John Rogers, and Harinder Marjara have successfully challenged traditional assumptions about Milton's relationship with the natural philosophy and science of his time.¹ But related ideas of the poet's ambivalence towards the machine have proven far more resistant to critical reappraisal. As Jonathan Sawday reminds us, 'Milton may have decried the ideology and the political sympathies of those who promoted mechanism as a way of understanding the world, yet, in his poetry he also thrilled to the energy, power, and force which machines and engines seemed to unleash upon the world'.² In this chapter, I extend Sawday's argument to some of Milton's prose writings by

¹ See Karen L. Edwards, *Milton and the Natural World: Science and Poetry in Paradise Lost* (Cambridge: Cambridge University Press, 1999); John Rogers, *The Matter of Revolution: Science, Poetry, and Politics in the Age of Milton* (Ithaca/London: Cornell University Press, 1996); Harinder Singh Marjara, *Contemplation of Created Things: Science in Paradise Lost* (Toronto: Toronto University Press, 1992); Stephen M. Fallon, *Milton Among the Philosophers: Poetry and Materialism in Seventeenth-Century England* (Ithaca/London: Cornell University Press, 1991).

² Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (London/New York: Routledge, 2007), p. 259. Cf. Catherine Gimelli Martin, *Milton among the Puritans: The Case for Historical Revisionism* (Farnham, UK/Burlington, VT: Ashgate, 2010), pp. 210-11.

investigating the understudied poetics and politics of automatic machines and self-moving mechanisms in the anti-prelatical tracts, in *Eikonoklastes*, and in the *Defences*.

Not unlike early modern prosthetics, the seventeenth-century automaton leads two very different lives in the imagination of the period: one is textual and metaphorical, the other is mechanical and material. Wendy Beth Hyman writes that real automata served as

tricks of the stage, doppelgangers of the poet, proofs of incipient animism, harbingers of sorcery, agents of political ambitions, object lessons for creative artists, guardians of shrines and grottos, amusements of the garden and cabinet, playthings to amuse a child king.³

As one enthusiast put it early in the twentieth century, the automaton is ‘Infinity’s bottle-imp’, a kind of mechanical genie that ‘has no will save that of a mechanical spring’ and can therefore serve as a vehicle for a wide range of interests and pursuits.⁴ Today, when we think of historical automata we think of de Vaucanson’s mechanical digesting duck (1739), of von Kempelen’s chess-playing Turk (1770), of Merlin’s Silver Swan (1773), or of Jaquet-Droz’s delicate child androids (1768-1774) (*fig* 14). Going further back in time, we might remember gigantic automaton displays of civic magnificence like the Strasbourg Cathedral Clock (1574). We might consider the mechanised icons of the pre-Reformation church, amongst which the Rood of Grace kept at Boxley Abbey is particularly famous. We might likewise think of the mechanically operated devils of the Renaissance pageant, or the miraculously

³ Wendy Beth Hyman, ‘Introduction’, in *The Automaton in English Renaissance Literature*, ed. by Wendy Beth Hyman (Farnham, UK/Burlington, VT: Ashgate, 2011), pp. 1-17 (p. 12).

⁴ Quoted in Alfred Chapuis and Edmond Droz, *Automata: A Historical and Technological Study*, transl. by Alec Reid (Neuchâtel: Editions du Griffon/London: B. T. Batsford Ltd., 1958), p. 381.

moving temple statuary of the ancient world.⁵ But in this chapter, I am primarily concerned with the automaton as a rhetorical device.

Conceived as a symbol of human inventiveness and skill (*technē*) in the broadest sense, the automatic machine of the seventeenth-century exists on a creative spectrum with the literary automata of Homeric epic and Ovidian mythology.⁶ As Thomas Powell remarks in his *Humane Industry* (1661), ‘sundry, and Artificial Motions’, though ‘little useful’, ‘discover a marvellous pregnancy of wit in the Artificers’ that is very much akin to the creative ingenuity displayed by the inventors of ‘The Art and Mystery of Writing’.⁷ Thus, in his *New World of English Words* (1658), a copy of which Milton is thought to have owned, the poet’s nephew Edward

⁵ Francis C. Haber, ‘The Clock as Intellectual Artifact’, in *The Clockwork Universe: German Clocks and Automata 1550-1650*, ed. by Klaus Maurice and Otto Mayr (New York: Neale Watson Academic Publications, 1980), pp. 9-18 (pp. 16-18). On the Rood of Grace, see Kara Reilly, *Automata and Mimesis on the Stage of Theatre History* (Basingstoke: Palgrave Macmillan, 2011), pp. 19-23; Peter Marshall, ‘Forgery and Miracles in the Reign of Henry VIII’, *Past and Present*, 178 (2003), 39-73; Ernest B. Gilman, *Iconoclasm and Poetry in the English Reformation: Down Went Dagon* (Chicago/London: The University of Chicago Press, 1986), p. 8. John Foxe provides a detailed description of the Rood in *The seconde Volume of The Acts and Monvments of Martyrs* (London, 1583), p. 1188; STC 11225. Anthony Grafton discusses mechanical devils in ‘The Devil as Automaton: Giovanni Fontana and the Meanings of a Fifteenth-Century Machine’, in *Genesis Redux: Essays in the History and Philosophy of Artificial Life*, ed. by Jessica Riskin (Chicago/London: The University of Chicago Press, 2007), pp. 46-62. Horst Bredekamp’s *The Lure of Antiquity and the Cult of the Machine: The Kunstkammer and the Evolution of Nature, Art, and Technology* (Princeton: Markus Wiener Publishers, 1995), remains the classic account of ancient traditions of automaton-making, especially as they relate to Renaissance practice.

⁶ Klaus Maurice, ‘Artificial Life: Automata and Figure Clocks’, in *The Clockwork Universe: German Clocks and Automata 1550-1650*, ed. by Klaus Maurice and Otto Mayr (New York: Neale Watson Academic Publications, 1980), pp. 234-289 (p. 234). The connection is explicit in Thomas Blount’s *Glossographia*, where he describes the automaton as ‘an instrument, or artificial body (made by *Daedalus*, or any other of like skill) which moves alone without the help of any other thing; a self-moving instrument’. Thomas Blount, *Glossographia: Or a Dictionary, Interpreting all such Hard Words of Whatsoever Language, now used in our refined English Tongue; [...] The Second Edition, more correct* (London, 1661), Wing B3335. There is no pagination throughout.

⁷ Thomas Powell, *Humane Industry: Or, A History of most Manual Arts* (London, 1661), pp. 24, 185, 46; Wing P3072. The ‘sundry’ motions Powell alludes to in his book include any number of fictional and outright fantastic mechanisms recorded both here and in comparable works of mechanical lore throughout the seventeenth century. They invariably include the self-moving statues of *Daedalus*, a fabled wooden dove made by *Archytas*, Rober Bacon’s speaking head, *Albertus Magnus*’s mechanical statue of a woman – allegedly broken in a fit of iconoclastic rage by his pupil, Thomas Aquinas – *Walchius*’s iron spider, *Regiomontanus*’s wooden eagle and fly, and various perpetual motions, including *Cornelis Drebbel*’s. Powell, pp. 28-29, 31-45, 181-85. Cf. John Wilkins, *Mathematical Magick. Or, The Wonders That may be performed by Mechanicall Geometry. In two Books* (London, 1648), pp. 173-74, 176, 191, 224; Wing W2198; and William Leybourn, *Pleasure with Profit: Consisting of Recreations of Divers Kinds, [...] Published to Recreate Ingenious Spirits; and to induce them to make further scrutiny into these (and the like) Sublime Sciences* (London, 1694), pp. 17-19, 24-31; Wing L1931.

Phillips defines the automaton as anything ‘having a motion within it self’.⁸ This includes machines and mechanisms of various kinds and degrees of sophistication, but it also relates to the human (or animal) body, to the soul, to the world, even to a work of literature.⁹ For Milton, too, the self-moving engine holds various

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metaphorical associations. In his poem ‘Another on the Same’ (1631), for example, he compares the daily comings and goings – and the death – of the university carrier Thomas Hobson to the motions of an automaton or ‘an engine moved with wheel and weight, / His principles being ceased, he ended straight’.¹⁰ Perhaps more famous is his cryptic allusion to a ‘two-handed engine’ in ‘Lycidas’ (1637), which has been hailed as ‘the most celebrated (non-textual) crux in English literature’ (*CSP*

⁸ Edward Phillips, *The New World of English Words: Or, a General Dictionary* (London, 1658), sig. D3^r; Wing P2068. Jackson Campbell Boswell, *Milton’s Library: A Catalogue of The Remains of John Milton’s Library and An Annotated Reconstruction of Milton’s Library and Ancillary Readings* (New York/London: Garland Publishing, 1975), p. 190.

⁹ On the automaton as a symbol of the animating power of (poetic) language, see Hyman, pp. 8-9.

¹⁰ John Milton, ‘Another on the Same’ (1631), in *John Milton: Complete Shorter Poems*, ed. by John Carey, 2nd edn (London/New York: Longman, 1997), 129.9-10. Any further references to Milton’s shorter poems will be given in the text, abbreviated to *CSP* followed by page and line numbers.

252.130).¹¹ Over the years, the ‘two-handed engine’ has turned into a critical or scholarly automaton of sorts, still generating new and ingenious interpretations.¹² It may be true that the early Milton is doing nothing more spectacular than paying homage to the seventeenth-century fashion for extravagant mechanical images and metaphors. But as we will discover in the following pages, in the religious and political prose of the 1640s and 1650s, he harnesses specific functions – and defects – associated with automatic mechanisms in the service of political and religious invective.

Seventeenth-century mechanical writers differentiate between relatively simple automatic mechanisms dependent on external sources of energy (like wind or water mills), and qualitatively superior mechanisms that (seem to) derive their motion from the internal organisation of their constituent parts. These latter are often divided into stationary and transient automata that move not only ‘according to their severall parts, but also according to their whole frames’.¹³ As we will discover, this distinction between external and internal kinds of motion is of particular use to Milton in his prose polemics, where it underpins corresponding dichotomies between religious coercion and freedom of worship, and, in the political sphere, between monarchical and republican forms of political organisation. In *Areopagitica* (1644),

¹¹ Edward S. le Comte, *A Milton Dictionary* (New York: Philosophical Library, 1961), p. 114.

¹² The literature on this mysterious image is substantial. The most recent argument is John Leonard’s, who identifies the two-handed engine as a threshing-flail that also ‘does the work of a winnowing fan, [...] an axe, a sword, a rod, a sceptre, a sheephook’ in bringing about divine judgment. John Leonard, ‘That Two-Handed Engine and the Millennium at the Door’, in *Young Milton: The Emerging Author, 1620-1642* (Oxford: Oxford University Press, 2013), pp. 252-78 (p. 277). See also James Kelly and Catherine Bray, ‘The Keys to Milton’s “Two-Handed Engine” in *Lycidas* (1637)’, *Milton Quarterly*, 44.2 (2010), 122-42, who present a coherent case for the printing press. See also Nicholas McDowell, ‘“Lycidas” and the Influence of Anxiety’, in *The Oxford Handbook of Milton*, ed. by Nicholas McDowell and Nigel Smith (Oxford: Oxford University Press, 2009), pp. 112-35 (p. 130); David Sansone, ‘How Milton Reads: Scripture, the Classics, and That Two-Handed Engine’, *Modern Philology*, 103 (2006), 332-57; and David Loewenstein, *Representing Revolution in Milton and his Contemporaries* (Cambridge: Cambridge University Press, 2001), p. 295. He conceives of the joint publication of *Paradise Lost* and *Samson Agonistes* in 1671 as ‘a two-edged sword or even [...] a two-handed engine’ which allowed ‘this radical Puritan prophet and poet [...] to smite once and smite no more’. For a number of less recent interpretations, see *CSP* 242-43.

¹³ Wilkins, pp. 146-47, 162, 168, 172.

for instance, Milton famously argues for free will by asserting that ‘When God gave [Adam] reason, he gave him freedom to choose, for reason is but choosing; he had bin else a meer artificiall *Adam*, such an *Adam* as he is in the motions’.¹⁴ Here, the automaton figures related kinds of intellectual, spiritual, and political servility, its unthinking and reflexive motions following like those of the Cartesian automaton ‘from the mere arrangement of the machine’s organs’ rather than from free and reasonable choice.¹⁵ In those of his prose works that I examine below, Milton rarely alludes explicitly to real automata, or to the mechanical philosophy that made them notorious. This chapter is therefore not intended to uncover precise parallels between his prose and that of contemporary inventors or mechanist philosophers.¹⁶ Rather, it seeks to explore some of the ways in which ideas about the automaton and related mechanisms that were current in the mid-seventeenth century inform his religious and political thought.

In the first part of my chapter, I examine the automaton’s ‘ambiguous animations’ in Milton’s anti-prelatical tracts (1641-42) and, very briefly, in *Eikonoklastes* (1649).¹⁷ In the former, mechanical images associated with the automaton’s determinate motions serve the related purposes of exposing liturgical formality and episcopal church government as instruments of spiritual coercion on the one hand, and as related forms of spiritual and literary fraud on the other. The figure of tautology, a rhetorical vice associated with the same unnecessary and

¹⁴ John Milton, *Areopagitica*, in *The Complete Prose Works of John Milton*, ed. by Don Wolfe, 10 vols in 8 (New Haven: Yale University Press/Oxford: Oxford University Press, 1953-82), II, pp. 480-570 (p. 527). Subsequent quotations from Milton’s prose in this chapter refer to this edition and will be provided in the text, abbreviated to *CPW*, followed by volume and page number.

¹⁵ *The Philosophical Writings of Descartes*, transl. by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 3 vols (Cambridge: Cambridge University Press, 1985-1991), I, p. 108.

¹⁶ On Milton’s familiarity with the contemporary Cartesian and Hobbesian philosophies, see Fallon, pp. 107-8. On his specific engagement with Hobbesian politics in *Paradise Lost*, cf. Rogers, pp. 131-32.

¹⁷ Kenneth Gross, ‘Introduction’, in *On Dolls*, ed. by Kenneth Gross (London: Notting Hill Editions, 2012), pp. ix-xxii (p. xiv). He applies the phrase not to the automaton but to its distant cousins, puppets and dolls.

tedious repetitions that characterise the automaton's pre-programmed motions, is central to Milton's project in this respect. As I will demonstrate, it allows him to portray what he perceived as the mechanical forms of worship prescribed by the liturgy – especially rote prayer – in terms of literary transgression. This, in turn, serves to undermine the (textual) authority of the Anglican Church. In *Eikonoklastes*, meanwhile, Milton applies the critical apparatus assembled in the anti-prelatical tracts to Charles. Here, related charges of literary fraud – of plagiarism, even – serve to convict the king of spiritual disingenuousness and thus to discredit the literary project of Royalist apology begun in the *Eikon Basilike* (1649) as a self-perpetuating literary automaton.

In the second part of the chapter, I seek to trace a similar strategy in Milton's political prose of the 1650s, specifically, in the *Second Defence* (1654). Here, mechanical images loosely associated with the determinate Cartesian body-machine help Milton to expose some of the most common tropes of Caroline hagiography as self-defeating literary mechanisms. As we will discover, the tract sees him extend the rhetorical strategy he had first tested in *Eikonoklastes* to draw attention to a major logical fallacy in Royalist attempts to canonise Charles as a political martyr.

In the third and final part, I examine some of the ways in which the automaton informs important aspects of Milton's anti-monarchical rhetoric, for example in the *Defences* (1651, 1654) and in *The Readie and Easie Way to Establish A Free Commonwealth* (1660). Here, the difference between self-regulating automata on the one hand and externally motivated ones on the other illuminates an important distinction between private – or internal – and public – or external – kinds of political sovereignty. As I will tentatively suggest in concluding, in these texts the figure of

the automaton bridges a gap between Milton's anti-monarchical rhetoric and his later, more uncompromisingly radical, republican thought.

Throughout, I want to argue that mechanical images associated with contemporary ideas of the automaton provided Milton with an important critical vocabulary with which to challenge not only the self-perpetuating rhetoric of Royalist apology, but also the supposedly self-evident political and religious truths that the Caroline state laid claim to. By tracing the figure of the automaton in Milton's political and religious prose, this chapter seeks not only to reassess his relationship with seventeenth-century science and technology, and thus to open up a new perspective upon the mutually constitutive relationship of literary, mechanical, and political discourses in the period; it also attempts to further illustrate the methodological assumption upon which this thesis is based: that to bring the tools of literary analysis to bear upon non-literary texts (and technological artefacts) is to expand our understanding of the rhetorical mechanisms involved in early modern textual production.

'LIVELESSE THINGS': AUTOMATA AND SPIRITUAL HYPOCRISY IN MILTON'S RELIGIOUS PROSE

As indicated above, I begin my discussion with the anti-prelatical tracts, which constitute an important Miltonic 'engine for purging corruption', as Nigel Smith suggestively puts it.¹⁸ Here, the automaton's pre-programmed motions underwrite Milton's textual critique of what he and his fellow reformers perceived as the oppressive, soul-destroying formality of the Caroline church and its forms of

¹⁸ Nigel Smith, 'The Anti-Episcopal Tracts: Republican Puritanism and the Truth in Poetry', in *The Oxford Handbook of Milton*, ed. by Nicholas McDowell and Nigel Smith (Oxford: Oxford University Press, 2009), pp. 155-73 (pp. 156, 159, 164).

worship.¹⁹ Throughout, he draws upon analogies of mechanical force and automatic motion in order to expose the ecclesiastical institutions of the liturgy and of episcopal church government as instruments of spiritual coercion. In examining the considerable impact that the automatic mechanism has upon Milton's imagery and rhetoric both here and in *Eikonoklastes*, I expand upon Brooke Conti's recent work on 'the mechanized or automatic aspects of religion' in *Areopagitica*, in which the automaton acts as a symbol of spiritual hypocrisy and 'false religiosity'.²⁰

In fact, as a metaphor for both of these things, the automaton features across Anglican and Puritan invective throughout the seventeenth century, its artificial motions inspiring mutual accusations of spiritual disingenuousness. In a sermon on the workings of the Holy Spirit preached in 1616, Lancelot Andrewes (1555-1626) compares the devotional affectations of religious hypocrites, who follow but 'the idol of their own conceit, the vision of their own heads, the motions of their own spirits', to the mechanical motions of an automaton.²¹ Because his ideas proved particularly influential to religious polemicists on both sides of the ideological fence, and because aspects of his rhetoric resurface in Milton's own religious prose, I quote the relevant passage from his sermon in full:

Christ's Spirit, not Hero's *pneumatica*; not with some spring or device, though within, yet from without; artificial, not natural [...]. Of ourselves to move; not wrought to it by any gin or vice, or screw made by art. Else we

¹⁹ Barbara Kiefer Lewalski provides a succinct account of the anti-prelatical tracts' joint argument against episcopacy and the liturgy in *The Life of John Milton: A Critical Biography*, revised edn (Malden, MA/Oxford, UK: Blackwell, 2003), p. 128.

²⁰ Brooke Conti, 'The Mechanical Saint: Early Modern Devotion and the Language of Automation', in *The Automaton in English Renaissance Literature*, ed. by Wendy Beth Hyman (Farnham, UK/Burlington, VT: Ashgate, 2011), pp. 95-107 (pp. 105-6).

²¹ Lancelot Andrewes, 'A Sermon Preached before The King's Majesty at Greenwich, on the Nineteenth of May, A.D. MDCXVI., Being Whit-Sunday', in *Ninety-Six Sermons by the Right Honourable and Reverend Father in God, Lancelot Andrewes*, ed. by J. P. Wilson and James Bliss, 11 vols (Oxford: John Henry Parker, 1841), III, pp. 261-79 (p. 275). The doctrine he preaches against here is that of Donatism, which held that the sinful – especially sinful priests – could not be the means of another's salvation. Andrewes contends that holiness is in the office of the priest, not in the man: 'Severe the office from the men; leave the men to God, to whom they stand or fall; let the ordinance of God stand fast. This breath, though not into them for themselves, yet goeth into and through every act of their office or ministry, and by them conveyeth His saving grace into us all', p. 278.

shall move but while we are wound up, for a certain time, till the plummetts be at the ground, and then our motion will cease straight. All which, but these last specially, are against the *automata*, the *spectra*, the puppets of religion, hypocrites. With some spring within, their eyes are made to roll, and their lips to wag, and their breast to give a sob; all is but Hero's *pneumatica*, a vizard, not a very face; 'an outward show of godliness, but no inward power of it all'.²²

Andrewes's language of 'gin' (engine), 'vice', and 'screw', of 'spring(s) within' and automata 'wound up' to perform 'an outward show of godliness, but no inward power of it', clearly associates counterfeit spirituality with a mechanical and therefore hypocritical performance. True faith (and true holiness), by contrast, is self-generated rather than initiated by an outside force. It requires us 'Of ourselves to move', as he claims, inspired solely by the 'inward power' of 'Christ's spirit, not Hero's *pneumatica*'.²³ As Norbert Wiener reminds us, the kinds of automata that Andrewes invokes here are pre-programmed mechanisms, 'blind, deaf, and dumb' to anything but the dictates of their own internal workings, and therefore fundamentally incapable of 'vary[ing] their activity in the least from the conventionalized pattern'.²⁴ They merely pretend to autonomous action. A similar assumption underpins Andrewes's comparison between the genuine (e)motions that the Holy Spirit engenders within the souls of true believers, and the mere act of going through the external motions as displayed by 'hypocrites'. The former are a result of '*Spiritus Christi*' – the spirit of Christ that 'must come from the Word' and must 'govern the

²² Ibid, pp. 274-75. Andrewes's sermon was still being quoted on the eve of the Restoration, for example in Thomas Pierce's anti-Puritan treatise, *The New Discoverer Discovered. By way of Answer to Mr. Baxter his Pretended Discovery of the Grotian Religion, With the Several Subjects therein Contained* (London, 1659), p. 106; Wing P2186. Conti mentions Andrewes's sermon and its textual afterlives in the Anglican and Puritan polemics of the mid-century in her chapter. See Conti, pp. 95, 100-2. My discoveries were made independently.

²³ This is of course a reference to the Greek engineer and mathematician Hero of Alexandria (1st century AD), the author of the *Pneumatica*, a treatise on air- and steam-powered machines. Andrewes seems to suggest that spiritual hypocrisy is comparable to so much hot air.

²⁴ Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (London: Free Association Books, 1989), p. 22.

Church'; the other of '*spiritus mundi*' – the spirit of the world 'that the greatest part of the world live[s] and breathe[s] and move[s] by'.²⁵

By the mid-century, Puritan writers have adopted the language of automation deployed to such effect in Andrewes's sermon and turned it into a critique of the ecclesiastical establishment, wresting it to the project of church reform. In his manifesto for an Independent church discipline entitled *Ohel or Beth-shemesh* (1653), the Fifth Monarchist John Rogers (b. 1627) argues with Luther against any church that seeks 'to *ensnare* any soules, or *trouble* any consciences' by '*compulsion by Powers, Decrees, of Councels, or the like*'.²⁶ Andrewes feared 'the *automata*, the *spectra*, the puppets of religion' in evangelical forms of worship unregulated by liturgical formality. For Rogers, by contrast, it is that very formality that most resembles an automaton, constituting an infringement of the individual's liberty of conscience and providing the spiritually indifferent with a means of hiding behind ceremony:

A true *Saint* is made *willing* and *spontaneous* by a *principle within*; but a *Hypocrite*, or any other man, is *moved* as the *Automata* are moved, or things of *artificial motion*, as *Clocks*, *Jacks*, or the *like engines* of *ingenuity*: It is some *weight without* that poyseth them, and puts them upon *motion*; so something or other that is without, *swayeth*, and *worketh*, and *weigheth* upon the *hearts* of *Hypocrites*, to make them *willing* [...] and not an *inward principle*.²⁷

Here, the '*spontaneous*' – that is, unconstrained or voluntary – '*inward*' motion of the 'true *Saint*' is in direct opposition to the external or '*artificial motion*' of the hypocrite, who is moved but by 'some *weight without*'. Andrewes conceived of evangelical fervour as a pneumatic performance, the believers' 'eyes [being] made to roll, and their lips to wag, and their breast to give a sob' by the power of 'some

²⁵ Andrewes, pp. 275-76.

²⁶ John Rogers, *Ohel or Beth-shemesh. A Tabernacle for the Sun: Or Irenicum Evangelicum. An Idea of Church-Discipline, In the Theorick and Practick Parts* (London, 1653), p. 272; Wing R1813.

²⁷ *Ibid.*, pp. 268-69.

spring within'. Rogers believes the opposite. For him, the true believer is motivated solely by the '*inward principle*' of his or her conscience. He acknowledges that every church has need of 'things [that] are *essential*, and *positively* relate as well to the *being*, as *well-being* of the *Church* [...] and may by no means be omitted', meaning a formal discipline. But importantly, he contends that 'respecting *ritual decency* and *order*, we must grant that men must not be tyed to such things as of *necessity*, but they are left *free*, whether to *observe* them, or *change* them, as often as there is *cause* for the *use* and *excellency* of the *Church*'.²⁸ True faith cannot be circumscribed by the dead weight of ceremony, which, like a weight-driven automaton, turns faith into a fraudulent and mechanical performance.

Ideas of counterfeiting and artificial motion associated with the automaton are of similar importance to Milton in the anti-prelatical tracts, as we will discover next. For him, as for Rogers, the real danger to the true faith lies not in the infection of the congregation by doctrinal error, but in the mechanical kinds of piety he believed the established clergy and the liturgy to embody and to inspire in others. Conceived as a series of (linguistic) rituals to be observed both during mass and in private prayer, the liturgy was intended to regulate the day-to-day business of devotion, and, in so doing, to guarantee and consolidate confessional and political unity across the nation's congregations. To reformers like Milton heavily invested in related ideas of liberty of conscience and worship, this notion of enforced conformity was anathema, as his *Animadversions* (1641) make clear by appeal to various kinds of mechanical imagery. The tract constitutes the third of Milton's five printed interventions (published in rapid succession between 1641 and 1642) in the prolonged public controversy prompted by the removal of Archbishop Laud from

²⁸ Ibid., p. 272.

office in late 1640.²⁹ Anticipating some of the concerns John Rogers would go on to raise in *Ohel or Beth-shemesh*, *Animadversions* relates specific grievances about liturgical conformity and spiritual disingenuousness to literary concerns, its critique of rote prayer reinventing devotion in terms of literary (or poetic) activity directly opposed to state-controlled forms of worship.

These latter practices, Milton claims in the tract, amount to little more than a ‘wise and charitable frame’ that ‘A little pulley would have stretch’t [...] three inches further, that the devotion of it might have yeilded no cause of offence to the very devils eare’ (*CPW* 1.679).³⁰ The irony here is as heavy as the associations of mechanical force that the imagery is clearly designed to evoke. The key words are ‘frame’ and ‘pulley’, both of which implicate the liturgical documents that Milton mocks in the mechanical contexts not only of manual labour, but also in those of the torture chamber. Playing on the implicit threat of physical violence that the words would have carried in the seventeenth century, Milton compares enforced liturgical conformity to the coerced – and therefore possibly false – confessions elicited by the mechanised cruelty of rack and strappado.³¹ These were common weight-operated implements of torture the sheer sight of which would often have sufficed to shock victims into compliance. In *Ohel or Beth-shemesh*, John Rogers speaks of the

²⁹ Lewalski, pp. 126-28. Together, the five treatises set out Milton’s vision for a modern church discipline based not on the corrupt authorities and practices of a long lost antiquity, or slavishly enthralled to political expediency, but a form of ecclesiastical government arising from individual integrity, spiritual merit, and above all, obedience to divine command. *CPW* 1.568-69, 573-74, 576-77, 600-1.

³⁰ On Milton’s own position on the Book of Common Prayer, as well as the factional struggles between Royalist Laudians, moderate Anglicans, Puritans, Presbyterians, and separatist sects in and around 1640, see Lewalski, pp. 124-25, 127, 157, and Sharon Achinstein, *Milton and the Revolutionary Reader* (Princeton: Princeton University Press, 1994), p. 166.

³¹ *OED Online*, ‘frame, *n.* and *adj.*’, esp. 3b: ‘Any other structure, apparatus, or machine constructed of parts fitted together. Hence: a gallows, a scaffolding, an easel, etc. *Obs.*’. Also 3c: ‘*spec. Sc.* = rack *n.*’ 2b. *Obs.*’: an instrument of torture ‘consisting of a frame on which the victim was stretched’. See also *OED Online*, ‘pulley, *n.*’, 1a: ‘A wheel with a groove round its rim, a sheave; [...] set in a frame or block and with a cord, rope, or cable passing round the rim, used to change the direction and application of a pulling force, [...] esp. when raising weights’; and 1b: ‘Such a device used as (part of) an instrument of torture. Now *hist.*’.

hypocrite metaphorically as an automaton who is moved by ‘some *weight without*’. In *Animadversions*, there is nothing metaphorical about this: the tract’s allusions to ‘frame’ and ‘pulley’ conjure a vision of the human body suffering under the inevitable pull of its own weight, thereby crucifying the soul into false confession. What Milton seems to suggest, then, is that by coercing conformity – indeed by doing violence to the individual’s freedom of conscience – the liturgy acts not only as an instrument of torture, but as an instrument of torture that elicits automatic or pre-programmed responses from its victims, turning the daily business of devotion into a lie.

Elsewhere in the *Animadversions*, he elaborates on his concerns about the mechanical aspects of liturgical worship in more explicitly literary terms. Having attacked the institution by appeal to the mechanical horrors of the torture chamber, he now turns to its devotional rhetoric, invoking a very different kind of (literary) machinery:

A Minister that cannot be trusted to pray in his own words without being chew’d to, and fescu’d to a formal injunction of his rote-lesson, should as little be trusted to Preach, besides the vain babble of praying over the same things immediately againe, for there is a large difference in the repetition of some patheticall ejaculation rays’d out of the suddain earnestnesse and vigour of the inflam’d soul, [...] from the continual rehersal of our dayly orisons, which if a man shall kneel down in a morning and say over, and presently in an other part of the Room kneel down again, and in other words ask but still for the same things as it were out of one Inventory, I cannot see how he will escape that heathenish Battologie of multiplying words which *Christ* himselfe that has the putting up of our Praiers told us would not be acceptable in heaven.³²

This passage sets up a dichotomy between spontaneous eloquence and what Milton will later call ‘a sett of stale and empty words’ offered up ‘on the specious wings of formalitie’ that still echoes in *Paradise Lost* (CPW 3.507).³³ In *Animadversions*, it

³² CPW 1.682.

³³ In *Paradise Lost* the signs of sincere devotion are ‘various style’ and ‘holy rapture’ in prayer. Adam and Eve’s daily ‘orisons’ offered to God in Eden are the products of ‘prompt eloquence’ and

serves to relate rhetorical to spiritual forms of vice, with the ultimate goal of discrediting the liturgy as a mechanical and therefore disingenuous form of devotion.

According to Milton, the single ‘Inventory’ of prayers prescribed by the liturgy enslaves both minister and worshipper to the mechanical rehearsal of ‘rote-lesson’, which prompts the pious to ‘kneel down in a morning and say over’ their ‘dayly orisons’ only to repeat the action shortly afterwards ‘and in other words ask but still for the same things’. By contrast, true devotion issues spontaneously from the heart by means of ‘some patheticall ejaculation rays’d out of the suddain earnestnesse and vigour of the inflam’d soul’. What Milton describes in this passage by appeal to ‘vain babble’, ‘repetition’, and ‘continual rehersal’ is the (de)vice of tautology, ‘a repeating of one thing several times over in different expressions’.³⁴ In early modern rhetoric, both tautology and what he refers to as ‘that heathenish Battologie of multiplying words’ count as figures of excess or stylistic vices.³⁵ But they are also implicitly mechanical, as I want to suggest here. For tautology shares a common root with the word automaton, that root being *auto*, meaning ‘self’ or ‘same’.³⁶ As a figure of speech – a literary automaton of sorts – it thus participates in

spontaneous inspiration. Wholly ‘Unmeditated’, they ‘Flowed from their lips, in prose or numerous verse’, adding ‘sweetness’ to innocence. John Milton, *Paradise Lost*, ed. by Alastair Fowler, 2nd edn (Harlow: Pearson Longman, 2007), 5.145-50, 152, 209. Subsequent references to the poem are to this edition and will be provided in the text, abbreviated to *PL* followed by book and line references.

³⁴ Phillips, sig. Oo4^r. Not to be confused with the logical notion of tautology.

³⁵ *Battologia* is the Greek for ‘vain repetition’. As an affectation in speech, it is specifically associated with spiritual hypocrisy. See for example Samuel Torshell, *The Hypocrite Discovered And Cyred* (London, 1644), p. 16; Wing T1938: ‘Some learned men doe thinke, that that *Battologie* which Christ condemnes in the *Hypocrites*, was not meant, as our Translation seemes to interpret it, of *volublenesse* of tongue, *Vse not vaine repetitions*; but of that [...] *drawing out of the Words in length*, which was called *Battologia*, of one *Battus*, who had an impediment in his speech. But whether we admit of that sense or no, we find the thing it self to be true, that oft times a *Tone* is affected to carry on the liking of the hearers’. Cf. *OED Online*, ‘battology, *n.*’: ‘A needless and tiresome repetition in speaking or writing’.

³⁶ *OED Online*, ‘tauto-, *comb. form.*’: ‘ancient Greek *ταῦτο-*, combining form (in e.g. *ταῦτόννομος* of the same name) of *ταῦτό*, contraction of *τὸ αὐτό* the same’. Cf. *OED Online*, ‘auto-, *comb. form.*¹’: ‘post-classical Latin *auto-* [...] and its etymon ancient Greek *αὐτο-* “self, one’s own, by oneself, independently”’. The concept of tautology is important to Milton throughout his prose, also featuring in the *Apology*, *Tetrachordon*, and in *Eikonoklastes*, where it denotes a kind of repetition that implies error and wilful deceit (CPW 1.939, 2.609, 3.466). Cf. Smectymnuus, *An Answer to a Booke Entitvled, An Hvmble Remonstrance* (London, 1641) p. 12; Wing M748, where prescribed

the machine's self-perpetuating life. The automaton's purpose is to achieve the illusion or appearance of self-movement and autonomous action. Tautology likewise extols appearance over substance. As Milton seems to suggest here, the mere outward act of prayer, rather than its content, becomes the goal of worship and the fulfilment thereof, thus turning communion with God into a mechanical performance devoid of sincerity or feeling.

Because 'in the beginning was the Word, and the Word was with God, and the Word was God', to sin against poetic decorum in prayer is to sin against the deity.³⁷ It is tantamount to turning the language of devotion into a prayer machine not unlike the famous rote-praying mechanical monk that allegedly belonged to Philip II of Spain (*fig* 15).³⁸ As Lancelot Andrewes reminds us in his above-mentioned sermon, the true spirit of Christ, which should, ideally, govern both man and the church, emanates spontaneously 'from the Word', which alone inspires true devotion.³⁹ Forcing it into the straightjacket – or mechanical 'frame' – of liturgical formality prevents what Milton calls 'the suddain earnestnesse and vigour of the inflam'd soul', making a travesty of the Holy Spirit (*CPW* 1.682). Milton's intentions in relating rhetorical to spiritual kinds of vice in this manner are clear. As suggested earlier, this serves to discredit the institution of the liturgy as a mechanical and disingenuous form of worship. For if prayer amounts to little more than an act of

'Responsories' not only seem 'unsutable to what the Minister pronounceth', but where 'some of them seeme to savour of Tautologie'.

³⁷ John 1.1 (KJV).

³⁸ The small spring-animated figurine, which has fully articulated moveable features, performs a series of devotional acts including the raising and kissing of a wooden rosary and cross, the penitent striking of its chest, and the continuous mouthing of prayers. Elizabeth King, 'Clockwork Prayer: A Sixteenth-Century Mechanical Monk', *Blackbird: An Online Journal of Literature and the Arts*, 1.1 (2002) <http://www.blackbird.vcu.edu/v1n1/nonfiction/king_e/prayer_introduction.htm> [accessed 21 August 2014]. The mechanisation of prayer that Milton describes here works both ways, 'Liturgicall tautologies, and impertinencies' also turning the ministers of God's word into 'lip-working deacons of other mens appointed words'. *CPW* 1.684, 936. Cf. also *Of Reformation*, where Milton disparages the ceremonial splendour and formality of the church, contending that 'then was the *Priest* set to *con his motions*, and his *Postures* his *Liturgies*, and his *Lurries*, till the Soule by this meanes of over-bodying her selfe, [...] bated her wing apace downward'. *CPW* 1.521-22.

³⁹ Andrewes, p. 276.

automatic lip-service designed to appease the ‘formalist’ clamouring for ‘decency in Gods worship’, submission to the liturgy is tantamount to rendering idolatrous worship to human-made (ecclesiastical) laws, rather than to God (*CPW* 1.943).

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But there is also a more fundamental point to be made about this. It is worth remembering at this point that since the Reformation the authority of the English Church had depended mainly upon its textual output, of which the liturgy formed an intrinsic part. As Stephen Greenblatt notes of the first generation of reformers in the early sixteenth century, ‘once they had displaced Catholicism, the Protestants had to reinforce and control the power of God’s word with more obviously physical punishments and with the whole apparatus of patriarchal family, church, school, and state’. But as Milton points out a hundred or so years later, if at first ‘The vernacular [had] wrest[ed] the Bible from the hands of the priests, and the printing press [had] assure[d] that this liberation of the word [wa]s irreversible’, it had once again

become an instrument of spiritual oppression.⁴⁰ For Milton to attack the liturgy was therefore to attack the very foundations of the ecclesiastical establishment.

Ultimately, what he seems to imply here is that the battle for England's soul was to be fought – and won – not from the pulpit, but on the printed page. This in turn constitutes a bold valorisation of the modes of literary production espoused by the second generation of reformers that Milton himself belonged to.

Having considered his arguments against the liturgy, I now wish to briefly discuss Milton's argument against episcopacy, which he casts in similarly mechanical terms. *The Reason of Church Government* (1642) adapts the line of argumentation initiated to such brilliant effect in *Animadversions*, bringing its rhetoric of automatic piety to bear on the specific question of prelatical authority. If the latter seeks to discredit the liturgy, *The Reason of Church Government* attacks the textual precedents for episcopacy that its supporters sought in the 'hollow antiquities' of exegetical scholarship. According to Milton, this is a practice favoured by 'men whose learning and belief [*sic*] lies in marginal stuffings' rather than in the strength of their religious convictions. His language here is that of senseless, 'dead', and 'Mimick' artifice. And while the imagery itself may not be explicitly mechanical, the act of scriptural exegesis it describes is:

Though since some of our Brittish Prelates seeing themselves prest to produce Scripture, try all their cunning, if the New Testament will not help them, to frame of their own heads as it were with wax a kinde of Mimick Bishop limm'd out to the life of a dead Priesthood.⁴¹

Like the 'woodden *Preists*' he had previously invoked in *Of Reformation* (1641), these waxwork 'Bishop[s] limm'd out to the life of a dead Priesthood' are engaged in

⁴⁰ Stephen Greenblatt, *Renaissance Self-Fashioning: From More to Shakespeare*, With a new Preface (Chicago/London: The University of Chicago Press, 2005 [1980]), pp. 98, 95. On the dissemination of the Bible as 'a matter of national policy', see pp. 97-98. Cf. Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe, Volumes I and II* (Cambridge: Cambridge University Press, 1979), pp. 422ff.

⁴¹ CPW 1.822, 777-78.

the work of mechanically scouring Scripture not for its life-giving truth, but for the means of satisfying their own ambition (CPW 1.557). Lancelot Andrewes would undoubtedly have recognised his automata, spectra, and puppets of religion in these worldly ‘Brittish Prelates’, which, like them, seem to be driven by the spirit of the world, rather than by the true spirit of Christ.⁴²

But as I want to suggest here, Milton’s argument in *Reason of Church Government* is more subtle than this. If in *Animadversions* spontaneous eloquence in prayer offers a means by which to measure devotional sincerity, here it indicates fitness to wield spiritual authority. Ideally, for Milton, the Word justifies the words, as he will later assert in *Paradise Lost*. In his (admittedly self-aggrandising) hymn to the Holy Spirit at the beginning of Book I, he invokes its life-giving powers so ‘That to the height of this great argument / I may assert the eternal providence, / And justify the ways of God to men’ (PL 1.21, 24-26). These famous lines offer Milton’s perhaps most encompassing statement of the principle also at work in the anti-prelatical tracts: that somehow the quality of an author’s verse (and words) reflects not only on his quality as a man, but also on the strength of his faith.

By contrast, Milton’s ‘Mimick Bishops’ in *The Reason of Church Government* have truly ‘driven holinesse out of living into livelesse things’ by erecting their claim to apostolic succession on the uninspired ‘marginal stuffings’ of received textual authority (CPW 1.844, 822). His allusion to prelatical ‘cunning’ in the passage quoted above is important in this respect, exposing the orthodox argument for episcopacy to accusations of subterfuge and (rhetorical) artifice. As we saw in Chapter 2, throughout the early modern period the idea of ‘cunning’ bridges a gap between concepts of ingenuity (*ingenium*) and (evil) machination that are related

⁴² Andrewes, p. 274.

to, and can arise from, the word ‘engine’. Here, it serves to portray scriptural exegesis as practised by the bishops as a mechanical attempt to ‘frame’ textual evidence to – or to mechanically construct it around – a self-serving political agenda. In other words, the term allows Milton to relate a fraudulent kind of textual production to the notion of spiritual disingenuousness we have already seen at work in *Animadversions*.

In *Eikonoklastes*, meanwhile, related acts of literary and spiritual fraud allegedly perpetrated by Charles give Milton occasion to apply the critical apparatus (or engine) I have shown him assembling, and testing, in the anti-prelatical tracts to the polemical project of Royalist apology, as I will argue in concluding this section of my chapter. We have already seen that for Milton the only acceptable prayer is a prayer formed of ‘free and unimpos’d expressions which from a sincere heart unbidden come into the outward gesture, [which] is the greatest decency that can be imagin’d’ in an age where ‘multitudes of us declare, they know not how to pray but by rote’ (CPW 1.941-43). *Eikonoklastes* states in even less uncompromising terms the assumption that also underwrites both *Animadversions* and *The Reason of Church Government*: that the more recourse piety has to mechanical forms and ‘Vaine Repetitions’, the less its author can be trusted (CPW 3.432).⁴³ However, if in the anti-prelatical tracts his main target is the institution of the liturgy, in *Eikonoklastes* Milton takes aim at Charles himself. His main criticism relates to Charles’s ‘Prayer in time of Captivitie’, the famous plagiarism from Sidney’s *Arcadia* that the writer of the *Eikon Basilike* passed off as ‘the royall issue of his own proper Zeal’ (CPW 3.364). As Milton is quick to point out, this constitutes an act not only of religious

⁴³ *Eikon Basilike. The Porvtraictvre Of His Sacred Maestie In His Sacred Solitudes And Syfferings* (London, 1649), sigs S2^{r-v}; Wing E310. On critical debates about Pamela’s prayer as a plagiarism and Miltonic forgery, see Marshall Grossmann, ‘Pamela’s Prayer’, in *The Milton Encyclopedia*, ed. by Thomas N. Corns (Yale: Yale University Press, 2012), p. 268 (p. 268).

hypocrisy, but also ‘a trespass’ against ‘human right, which commands that every Author should have the property of his own work reservd to him after death as well as living’ (CPW 3.365).

It is this act of intellectual theft, which is comparable to the mechanical act of scriptural exegesis he disclaims in *The Reason of Church Government*, that prompts another explicit assertion of the intimate relationship between literary and spiritual kinds of vice under discussion here. In *Eikonoklastes* he argues that:

he who wants a prayer to beseech God in his necessity, tis unexpressible how poor he is; farr poorer within himself then all his enemies can make him. And the unfitness, the undecency of that pittiful supply which he sought, expresses yet furdur the deepness of his poverty.⁴⁴

By thus ‘excus[ing] himself the paines and cost of his invention’, Charles reveals himself as a man who holds not only other authors, his subjects, or indeed his loyal supporters in contempt, but also God himself – evidently ‘[thinking] no better of [Him] then of a buzzard Idol, fit to be so servd and worshipt in reversion, with the polluted orts and refuse of *Arcadia’s* and *Romances*’ (CPW 3.367, 364). Milton’s use of the term ‘invention’ is suggestive, seeing that it accommodates both textual and mechanical forms of production throughout the early modern period. Here, the term seems to imply that there is something contrived and calculated – something mechanical because merely copied or repeated – about the supposedly spontaneous confessions made from the depth of Charles’s heart that the *Eikon* purports to record. Indeed, as Milton claims in the above passage, the ‘unfitness’ and ‘undecency’ of Charles’s literary efforts are direct reflections of a much greater spiritual ‘poverty’. But as such, they also reflect negatively upon the Caroline church, whose head Charles technically was. Thus, what began as a literary critique of the Laudian liturgy in the anti-prelatical tracts acquires a more broadly polemical dimension in

⁴⁴ CPW 3.366.

Eikonoklastes. As Barbara Lewalski has pointed out, for Milton to cast aspersions on Charles's sanctity by implicating the *Eikon* in fraudulent poetic activity is, ultimately, to invalidate the literary undertaking of Royalist apology in its entirety.⁴⁵ I would add that if Milton's prose invectives of the 1640s constitute an 'engine for purging corruption' as Nigel Smith contends, it is the (literary) automaton that plays a significant role in sustaining its momentum across a range of polemical concerns.⁴⁶

'WORDS WHICH ADMIT OF VARIOUS SENSE',⁴⁷

Next, we will discover how Milton extends this line of argumentation to the political prose of the 1650s, specifically, the *Second Defence* (1654). Here, a different kind of automaton loosely associated with Cartesian notions of mechanist determinism serves the polemical purpose of exposing Royalist apology as a self-contradictory and therefore self-defeating literary mechanism. Like *Eikonoklastes*, the tract draws attention to the self-contradictory nature of Royalist apology by invoking the pretence of self-motion that is peculiar to the automatic mechanism. Later on in this chapter, we will see Milton extend this imagery to challenge the institution of the monarchy itself. But as I will demonstrate first, in the *Second Defence* it works primarily to demonstrate Charles's personal unfitness for rule, to discredit Royalist apology, and, ultimately, to justify the regicide. Towards the end of the treatise Milton remarks:

Yet I marvel, first at those royalists who do not hesitate to assert so often that Charles was extremely wise and yet that the same man scarcely ever did anything of his own accord, that whether among his friends or among

⁴⁵ Lewalski, pp. 268-70.

⁴⁶ Smith, p. 164.

⁴⁷ For Milton, to trade insults with the Royalist opposition on the printed page is to engage in a particular form of (literary or textual) 'combat'. In the opening pages of *Eikonoklastes*, he remarks that 'in words which admit of various sense, the libertie is ours to choose that interpretation which may best minde us of what our restless enemies endeavor, and what wee are timely to prevent'. *CPW* 3.337-38, 342.

enemies, whether in court or in camp, he was almost always *in the power of another*, now his wife, now the bishops, now the courtiers, now the soldiers, and finally the enemy; that generally he followed the worse counsels, and those of the worse counsellors. *Charles is persuaded, Charles is imposed on, Charles is tricked, he is smitten with terror, he is lured with vain hopes; as the common prey of all, both friends and enemies, Charles is driven and carried off.* Let them either excise these statements from their writings or let them cease to proclaim *the wisdom of Charles*.⁴⁸

Milton's language here is not explicitly mechanical. But certain phrases, which I would suggest are too carefully chosen and placed to be entirely coincidental, seem to evoke some of the mechanist rhetoric within which contemporary debates especially about free will took place. One of these is 'in the power of another', a phrase that carries clear associations with the mechanically determined motions of the automaton. As the Cambridge Platonist Peter Sterry (1613-1672) notes in his *Discourse Of The Freedom Of The Will*, a man who is 'not in his own power' is most like those '*Automata*, the self-moving Works of Art [...] determined by the Workman to a certain motion, which they cannot vary, and [...] continue it without any power over it'. By contrast, 'the Soul of Man in the motions of the Will is *acted* by superior and *universal* Causes, not as *external hand or power*, but as *internal Principles*'. It is for this reason that the self-determining will exceeds 'the self-moving works of Art' by preheminencies [...] *many, great, and glorious*'.⁴⁹ To be free and self-governing is to act according to those '*internal Principles*' instilled in the soul by divine decree, whereas to be driven by '*external hand or power*' is, like Charles, to be little more than a piece of machinery that appears to be self-moving but is in fact 'determined' by the will of another.

The reasoning and rhetoric of Sterry's *Discourse*, which was published posthumously in 1675, is post-Cartesian. But it draws upon and summarises ideas that were already current in the 1640s and 1650s, as another posthumous work by the

⁴⁸ Ibid., 4.663 (my emphasis).

⁴⁹ Peter Sterry, *A Discourse Of The Freedom Of The Will* (London, 1675), pp. 190-91; Wing S5477.

philosopher John Smith (1618-1652) suggests. In his *Select Discourses* (collated from papers left at his death and published in 1660), he makes a similar distinction between the mechanically determined motions of the body and the freedom of the will:

we know that there is a Fatal determination which sits in all the wheels of meer Corporeal motion; neither can they exercise any such noble freedome as we constantly find in the Wills of men, which are as large and unbounded in all their Elections as Reason it self can represent Being it self to be.⁵⁰

The body, he suggests with Descartes, whose philosophy he admired, amounts to little more than ‘wheels or meer Corporeal motion’, subject to the ‘Fatal determination’ of matter.⁵¹ The ‘Wills of men’, meanwhile, soar above ‘large and unbounded in all their Elections’. Here, and elsewhere in similar treatises, ‘senseless Machins’ and ‘artificial *Automata*’ whose mechanical lives are circumscribed by ‘the Laws of matter and motion’ throw into glorious relief the ‘deliberative, elective and self-moving Principles’ of the unforced human will.⁵²

The Royalist rhetoric of apology that Milton mocks in the *Second Defence* bears a striking resemblance to the metaphorical language of these tracts, certainly as Milton presents and satirises it in the above-quoted passage. Like Sterry’s automata, or indeed like Samson at the mill – ‘In power of others, never in my own’ – Charles ‘scarcely ever did anything of his own accord’ (CSP 360.78). Subject to a ‘Fatal determination’ that is both personal and political, he is ‘driven’ by the motions and stratagems of others – including those of his wife, the bishops, his courtiers, the army, and the enemy. Indeed, as Milton contends with a with a fair measure of scorn, ‘he is forced, even against his will, to be a slave, not only to his own crimes, but also

⁵⁰ John Smith, *Select Discourses* (London, 1660), p. 90; Wing S4117.

⁵¹ Sarah Hutton, ‘Smith, John (1618-1652)’, *ODNB*.

⁵² Samuel Parker, *An Account Of The Nature And Extent Of The Divine Dominion & Goodnesse, Especially as they refer to the Origenian Hypothesis Concerning the Preexistence of Souls* (Oxford, 1666), pp. 34-35; Wing P454.

the most grievous crimes of his servants and attendants' (CPW 4.563). This runs counter to the fundamental tenet of freedom that informs Milton's own poetics, his politics, and his metaphysics. Being the absolute arbiter of human morality, free will – or choice, since 'reason is but choosing' – cannot be circumvented, disowned, or surrendered (CPW 2.527). It is what makes us human, our reasoning 'act intelligential' distinguishing us from the 'brutal sense' of the unreasoning and inarticulate animal (PL 9.188-90).⁵³ Created free 'free [we] must remain', as he puts it in *Paradise Lost*, which implies that freedom of will and action form an intrinsic and inalienable part of human nature that has been 'decreed from eternity' (PL 3.124, CPW 6.162-63).

However, by Milton's own admission in *De Doctrina Christiana* and indeed elsewhere in his political prose, free agents may be compelled 'against their will, [...] meaning that man is subject to the force of another's decree, and is thus the cause of sins only *per accidens*, God being the cause of the sin *per se*' (CPW 6.162). Read in this context, the implication of Royalist appeals to mechanist determinism becomes clear: to absolve the king from personal responsibility for his actions. After all, if Charles could not be held accountable for the crimes imputed to him by his Parliamentary accusers, how could the regicide be justified? Alert to the alarming consequences this might be understood to have for the Commonwealth, which derived its legality and *raison d'être* from the charge of high treason brought against

⁵³ Cf. Marjara, p. 271: 'Freedom is exercised by man by the use of reason, which is, for Milton, a function of the same matter that binds man down to the lower physical and mental functions. Milton, instead of expressing his faith in reason as ensuring man's freedom of the will, a faith that might have seemed naïve, views man as a whole, in whom reason is present along with the lower faculties, and in whom there is a constant tension between the lower and the higher faculties'.

the king, Milton's response in the *Second Defence* is to turn the rhetoric of necessity invoked in contemporary works of Royalist apology back upon itself.⁵⁴

According to him, Royalist polemics adduced necessity and external circumstance in order to absolve the king both of the charge of tyranny and of personal responsibility for England's descent into civil war.⁵⁵ For Milton, by contrast, the imagery of senseless machinery that the phrase 'in the power of another' evokes signals a fundamental contradiction in the Royalist argument: how could the king be governed entirely by external forces beyond his control yet be 'extremely wise' at the same time? For even though a free agent might be compelled to serve the will and purpose of another against his will, to relinquish one's God-given reason altogether and to voluntarily choose servitude is to be numbered among the 'credulous and hapless herd [of animals], begottn' to servility' (*CPW* 3.601). This is of course precisely what Charles seems to do by electing to '[follow] the worse counsels, and those of the worse counsellors' (*CPW* 4.663). In Milton's moral universe, such an individual cannot be 'extremely wise'.

In this respect, the extended sequence of passive constructions that he deploys in the above-quoted passage from the *Second Defence* is particularly revealing. Here, Charles is 'persuaded', 'imposed on', 'tricked', 'smitten with terror', 'lured with vain hopes', 'driven' and 'carried off' – the 'common prey of all, both friends and enemies'.⁵⁶ It should be mentioned that Milton is being deliberately

⁵⁴ As Stanley Fish notes, for Milton truth is textual. Both here and throughout his works he operates by 'foreground[ing] the conflict of competing texts and moralities so that we can hold them "in tension"'. Stanley Fish, *Surprised by Sin: The Reader in Paradise Lost*, 2nd edn (Basingstoke: Macmillan, 1997), pp. xl-xli.

⁵⁵ There is a parallel to be made with modern British and American law, where 'automatism' of the kind imputed to Charles here mitigates criminal liability. As Alan Clinton explains, '[s]ince traditional law presupposes a rational human subject, a defendant who has been "reduced" to a machine cannot be prosecuted within the standard legal system'. Alan Ramon Clinton, *Mechanical Occult: Automatism, Modernism, and the Specter of Politics* (New York: Peter Lang, 2004), p. 14.

⁵⁶ The translation preserves the passive voice and syntax of the Latin original. See John Milton, *Pro Defensio Anglicano Defensio Secunda* (London, 1654), pp. 139-40; Wing M2171.

fallacious. In the *Eikon Basilike* (1649), Charles does appeal to ‘the mist of Errour and Passion’ in order to excuse past actions, arguing that ‘Sure that man cannot be blameable to God or Man, who seriously endeavours to see the best reason of things, and faithfully followes what Hee takes for Reason: The uprightness of his intentions will excuse the possible failings of his understanding’. But throughout, he also insists on freedom of the will, refusing categorically ‘to subiect My Reason to other mens passions, and designs, which to Me seem unreasonable, uniuert, and irreligious’.⁵⁷ Thus, Milton’s choice of words is interesting not so much for what it communicates about Charles, but for how it does so.

David Marshall and Jacqueline Rinaldi remind us that as a linguistic device, the passive voice constitutes a ‘grammatical category of action’ associated with loss of (rhetorical) agency.⁵⁸ The hyperbolic series of passive verbs Milton chooses to apply to Charles thus amplifies not only his personal failures as a free agent, but it also seems clearly intended to direct readerly attention to the self-contradiction inherent in Royalist rhetoric. For as Milton makes clear, dependence upon external circumstance or motivation gives the lie to commonplace Royalist assertions of ‘the wisdom of Charles’. (Political) wisdom implies the capacity for independent reasoning and the ability to make informed choices for the good of the

⁵⁷ *Eikon Basilike*, pp. 33-34, 36. The records of Charles’s trial tell yet another story. In order to uphold its charge of high treason against Charles, the prosecution had imputed sole agency and responsibility to the king for having contrived ‘a *Wicked Design*, to erect, and uphold in himself an unlimited and Tyrannical Power to rule *according to his Will*’, for having ‘Trayterously and maliciously levyed War against the *present Parliament, and the People therein Represented*’, and for having thereby ‘caused and procured many thousands of the Free-People of the Nation to be slain’. Here, the active verbs to erect, to uphold, to levy, to cause and to procure identify Charles as the ‘the Occasioner, Author, and Contriver’ of these crimes. *King Charls His Tryal At The High Court of Justice sitting in Westminster Hall* (London, 1650), pp. 13-14, 16, 18; Wing K556.

⁵⁸ David L. Marshall, *Vico and the Transformation of Rhetoric in Early Modern Europe* (Cambridge: Cambridge University Press, 2010), p. 44. Jacqueline Rinaldi, ‘Rhetoric and Healing: Revising Narratives About Disability’, *College English*, 58.7 (1996), 820-34 (pp. 824, 826). It is also a feature of the mechanist philosophy. Thomas Hobbes speaks of the will as something that is ‘*produced, generated, formed, and created in such sort as accidents are effected in a corporeal subject*’, the passive sentence construction reinforcing Hobbes’s point effectively. Thomas Hobbes, *The Questions Concerning Liberty, Necessity, And Chance. Clearly Stated and Debated Between Dr. Bramball Bishop of Derry, And Thomas Hobbes of Malmesbury* (London, 1656), p. 245; Wing H2257.

commonwealth. By his supporters' own admission – according to Milton – Charles was capable of neither, like Sterry's automata set to a course of action not of his own choosing and determined in his motions by forces beyond his control. For Milton to demand that his supporters 'either excise these statements [of the king's innocence] from their writings or let them cease to proclaim the wisdom of Charles' is thus to entangle Royalist apologists in a particularly vicious dilemma – a rhetorical catch-22 situation of sorts (*CPW* 4.663). For to stand upon 'the wisdom of Charles' must entail an admission of his culpability, while to maintain his innocence would be tantamount to declaring him a fool unfit to rule over himself or over his subjects. By appealing to contemporary notions of mechanist determinism, and by drawing attention to the fundamental incompatibility of servitude and choice in this manner, Milton thus exposes a major logical fallacy in the literary premise of Royalist apology. Ultimately, what he seems to suggest is that Charles was – and remains – subject not to necessity *per se*, but to the dramatic necessities of the literary genre devoted to turning him into a martyr.

'THAT CROWNED AUTOMATON': MILTON AND THE CAROLINE STATE MACHINE

In concluding my chapter, I want to discuss some of the ways in which the idea of the self-moving machine informs Milton's wider critique of the Caroline state machine and its king.⁵⁹ As we will discover, in the two *Defences* the automaton's inherent determinism informs his attack upon monarchical government, while in *The Readie and Easie Way to Establish A Free Commonwealth* (1660), for instance, it also seems to inform his republican politics – rather paradoxically, perhaps. Earlier I

⁵⁹ I have not been able to ascertain how old the metaphor of the state machine is, but it was certainly current in the 1640s. As one Royalist author writes in 1648: 'Was it indeed, that you Cride order downe, / To play at free-ball with the staffe and crown; / That so while as our English Machine cracks, / You each may bear six Steeples on your backs'. *Out-Crie of the Kings at Westminster, or, the Junto who call themselves a Parliament* (London, 1648), sig. A2^v; Wing O597.

suggested that in seventeenth-century religious polemics, the automaton served primarily as an emblem of spiritual hypocrisy, figuring liturgical affectations that, according to Milton, kept minister and worshipper alike from God's saving grace. But at the other end of the philosophical (and political) spectrum, the automaton was also being evoked as a symbol of divine immanence, with direct implications for contemporary theories of absolute kingship.⁶⁰

In *The Darknes of Atheism Dispelled* (1652), for instance, the physician and natural philosopher Walter Charleton (1620-1707) draws an elaborate analogy between the harmonious organisation of 'the almost infinite multitude of organs, principal and subordinate' that give the animal body its 'oeconomy of [...] *Form*' and the 'main spring in an Automaton, [which] invigorates, and actuates the whole fabrick'. These, he maintains, illustrate beyond doubt the existence of a benevolent and omnipotent God:

either we must bid dehance to the chief inducement of beleif, and drown the loud clamors of our Conscience, or else fall down, transported with an ecstasie of pious Wonder, and humbly confess, that these are the *Impresses* of the infinite *power* and *wisdom* of an *omniscient, and omnipotent Creator*; but not the *Contingencies*, or temerarious effects of *Chance*.⁶¹

There is intelligent – divine – design behind the things of nature, Charleton suggests here. And this design regulates not only the natural world, but also the (animal) bodies that populate it. For Charleton, who admired the mechanist philosophy of Sir Kenelm Digby, René Descartes, Pierre Gassendi, and Thomas Hobbes, the automaton functions as a model for a self-regulating natural cosmos 'invigorat[ed]'

⁶⁰ Cf. Wendy Beth Hyman, who notes that in post-Reformation England, automata acted as 'a living experiment in analogy, a hypostatic union in wood or brass', '[giving] audiences the chance to witness, if only in the theater, what their parents had once witnessed in church'. Hyman, pp. 10-11.

⁶¹ Walter Charleton, *The Darknes of Atheism Dispelled by the Light of Nature* (London, 1652), p. 55; Wing C3668. On real religious automata as symbols of the eternal eschatological truths of the Christian faith, see Haber, pp. 15-16.

and ‘actu[at]ed’ by a an ‘*omniscient, and omnipotent Creator*’.⁶² As the judge and prolific writer Sir Mathew Hale (1609-1676) would go on to explain later in the century, the self-moving automaton provides a particularly apt metaphor for the divinely instituted ‘regular order in things of Nature’ because it is ‘guided to its end, according to the design of the Artist, without the immediate hand or identifi[ca]l act of the Artist to guide every motion’. Thus, in the same manner that self-motion in a machine ‘far more advanceth the honour and skill of an excellent Artist that hath so framed and ordered an *Automaton*’, the immanent design that actuates the *machina mundi* ‘far more advanceth the glory of the Divine Wisdom’.⁶³

As a metaphor for the workings of divine providence in the natural world, the automaton had obvious political implications. In *Leviathan* (1651), Thomas Hobbes famously extended its imagery to the political cosmos, where the ‘infinite *power* and *wisdome*’ of the divine mechanician translates to that of an absolute sovereign in control of the state machine.⁶⁴ His metaphor of the state as an ‘Artificiall Man’, a

⁶² John Henry, ‘Charleton, Walter (1620-1707)’, *ODNB*.

⁶³ Sir Mathew Hale, *Essay Touching The Gravitation, or Non-gravitation Of Fluid Bodies, And The Reasons thereof* (London, 1673), p. 44; Wing H244. Writing about *Paradise Lost*, John Broadbent argues that ‘Nature’s artistry is also a symbol of perfection because it reveals the designs of God’. By this token, ‘the more artificial nature’s works appear, the more they “illustrate” the immanence of God’. John Broadbent, *Some Graver Subject: An Essay on Paradise Lost* (London: Chatto & Windus, 1960), p. 179; quoted in *PL* 4.690-703n. In *Paradise Lost*, mechanical signifiers of divinity include Heaven’s automatic gates, those ‘living doors’ which ‘self-opened wide / On golden hinges turning, as by work / Divine the sovereign architect had framed’, and the Son’s self-moving cosmic vehicle, ‘wheel within wheel undrawn, / Itself instinct with spirit’. *PL* 7.566, 5.254-56, 6.751-52. On the Son’s chariot as an image of *machina mundi*, see David Norbrook, *Writing the English Republic: Poetry, Rhetoric and Politics, 1627-1660* (Cambridge: Cambridge University Press, 1999), p. 468.

⁶⁴ Ted H. Miller, *Mortal Gods: Science, Politics, and the Humanist Ambitions of Thomas Hobbes* (University Park, PA: The Pennsylvania State University Press, 2011), p. 185. Miller argues that ‘Monarchs were already portraying themselves as analogous to God. *Leviathan* [...] is the text that allows them to perpetuate this self-image while placing their rule on a new footing’. He reads the treatise as ‘a masque text’ designed to ‘convince a sovereign already accustomed to seeing his image in God affirmed afresh, and to do so in way [*sic*] that both complimented the Crown and trumpeted his own accomplishments’. As such, it functions as ‘a mirror for a sovereign who must be taught to accept the consent of the people, as well as the teaching of the doctrine (i.e., Hobbes’s own) that shows them why they should consent to being ruled’. On the religious principles underpinning Hobbes’s political theory, see also A. P. Martinich, *The Two Gods of Leviathan: Thomas Hobbes on Religion and Politics* (Cambridge: Cambridge University Press, 1992), pp. 45-48. Martinich argues that whilst Hobbes disallows both the theory of divine right of kings and the patriarchal theory of kingship that James I had espoused, he nevertheless upholds ‘the analogy between God and the sovereign’ by ‘ground[ing] the obligation imposed by the state and enforced through its irresistible

vast political engine or automaton whose mechanical operations are comparable to and explicable by analogy with those of the human body, remains one of the most iconic and startling images in seventeenth-century political thought.⁶⁵ As we saw Norbert Wiener assert earlier, automata are fundamentally incapable of changing their routine, of ‘vary[ing] their activity in the least from the conventionalized pattern’.⁶⁶ In the *Second Defence*, this very quality – or defect – provides Milton with a powerful rhetorical instrument both against Charles and against the literary project of Royalist apology. But as Hobbes’s theory of political necessity suggests, at the same time the automaton’s dependence on a single, unalterable governing principle also rendered it a powerful symbol for the autocratic (and automatic) form of government he recommends in *Leviathan*. In Chapter 3, we saw a specific type of automaton – Cornelis Drebbel’s perpetual motion machine – work in support of the claims to absolute prerogative that James staked for the early Stuart dynasty. The eighteenth century would go on to compare ‘the mechanization of the body with the disciplinary apparatus of the old regime’, as Simon Schaffer notes, prompting revolutionary slurs against ‘that crowned automaton’, Louis XVI.⁶⁷ But as we will discover next, for the polemical Milton of the 1650s, the figure of the automaton is inextricably bound up with loss of individual agency, which, for him, is the mark of ‘political freedom’ and citizenship in a free society (CPW 4.374-75). If the

power in the obligation humans have to God’. According to Martinich, Hobbes saw a parallel between civil government ‘saving humans from bodily death in the state of nature; just as God saves humans from spiritual death’, p. 47.

⁶⁵ Thomas Hobbes, *Leviathan Or The Matter, Forme and Power of A Common-Wealth Ecclesiasticall and Civil* (London, 1651), p. 1, sig. A4^r; Wing H2246.

⁶⁶ Wiener, p. 22.

⁶⁷ Simon Schaffer, ‘Enlightened Automata’, in *The Sciences in Enlightened Europe*, ed. by William Clark, Jan Golinski, and Simon Schaffer (Chicago/London: University of Chicago Press, 1999), pp. 126-65 (pp. 140-41). The remark appears to be Maximilien Robespierre’s, made in a report to the National Convention on France’s foreign relations on November 17, 1793, months after the execution of Louis XVI on 21 January 1793. Moncure Daniel Conway, *The Life of Thomas Paine*, 2 vols (New York/London: G. P. Putnam’s Sons, 1892), II, p. 111. See also Minsoo Kang, *Sublime Dreams of Living Machines: The Automaton in the European Imagination* (Cambridge, MA/London: Harvard University Press, 2011), p. 183.

Hobbesian subject is at home ‘in a universe governed by physical causation’ alone, the self-governing Miltonic citizen, although ‘accountable for his own free actions’, remains uncompromised by either causality or necessity, as Stephen Fallon maintains.⁶⁸

In *Eikonoklastes*, the difference between self-regulating automata on the one hand and externally motivated ones on the other illuminates an important distinction between private – or internal – and public – or external – kinds of political sovereignty. According to Milton, it is the relationship of one to the other that makes for good – or bad – government. Thus, he writes that as the monarch, Charles is to be regarded not as a private person but as a public one. ‘Never sworn to his own particular conscience and reason, but to our condition as a free people’, he must frame the dictates of his own free will to the will and collective good of his subjects (*CPW* 3.519). The private will of the ruler, though free, holds no sway over matters pertaining to public office and the administration of the state. Thus, Milton contends that ‘both as a man, and as a Christian’, Charles might have ‘raigned within himself, in full sovranty of soule, no man repining’. But instead, ‘his outward and imperious will must invade the civil Liberties of a Nation’, elevating prerogative – the prejudiced bias of mere ‘*like or dislike*’ – over those ‘Laws [by which] we our selves would be govern’d’ (*CPW* 3.412).⁶⁹ The inflammatory issue around which Milton’s polemic revolves here is that of popular consent and parliamentary autonomy.

For him, to deprive the English people ‘of the power to choose whatever form of government they prefer’ is to render them ‘sluggish and servile’, as he elaborates in the *First Defence* (1651), fit to be ‘numbered with the most irrational and worthless of animals’ (*CPW* 4.392, 386, 359). Milton’s juxtaposition of the human

⁶⁸ Fallon, p. 127.

⁶⁹ Cf. Achinstein, p. 168.

‘power to choose’ – that power being reason – and the servitude of ‘irrational’ animals is particularly striking because it evokes the body-machine (or animal-machine) of Cartesian mechanism. In the *Discourse on the Method* (1637), Descartes notes that if ‘machines had the organs and outward shape of a monkey or of some other animal that lacks reason, we should have no means of knowing that they did not possess entirely the same nature as these animals’.⁷⁰ Animals are like machines because they lack reason. Their actions and movements are caused by nature acting in them ‘according to the disposition of their organs’, rather than by intelligent purpose (according to Descartes, a rational soul is the prerogative of man).⁷¹ For Milton, to demean and render an entire nation ‘a credulous and hapless herd, begott’n to servility’ and a creeping life of ‘degenerate corruption’ is thus to replace that which one ‘might almost call divine’ in man – his free will – with what Descartes calls the mere ‘organs and mechanisms’ of the automaton (*CPW* 3.601, 7.356, 4.359).⁷²

Simon Schaffer writes of the absolutist clockwork state of the eighteenth century that ‘Tyranny made its subjects machines and was itself one’.⁷³ It would be a gross exaggeration to speak of Caroline England in these terms. But according to Milton’s *Readie and Easie Way* (1660), its ‘superficial actings of State’, which include ‘a dissolute and haughtie court’, ‘expence and luxurie, masks and revels’, as well as ‘the eating and drinking of excessive dainties’, have turned the once ‘free Commonwealth’ into an automatic pageant lined with the mechanically rehearsed or ‘perpetuall bowings and cringings of an abject people’ (*CPW* 7.360-61). The political

⁷⁰ *The Philosophical Writings of Descartes*, p. 139.

⁷¹ *Ibid.*, p. 141. On the difference between human and animal machines in Descartes’s philosophy, see John Cottingham, “‘A Brute to the Brutes?’: Descartes’ Treatment of Animals”, *Philosophy*, 53.206 (1978), 551-559 (pp. 552-53).

⁷² *The Philosophical Writings of Descartes* p. 314.

⁷³ Schaffer, p. 154.

machinery Milton describes here – and especially the effect it has on its subjects – evokes the mechanically repetitive motions of an automaton. Thus, while free citizens are active, self-moving, and self-governing – dependent only on ‘our own counsels, our own active vertue and industrie’ – the mechanical, quasi-Hobbesian slaves Milton describes here are content ‘sluggishly and weakly to devolve all [power] on a single person’, ignominiously reduced to ‘the base necessities of court-flatteries and prostrations’ (*CPW* 7.362-63).⁷⁴ The implication is that by wresting the mechanics of monarchical authority to the self-serving goals of a corrupt and corrupting elite, Charles has turned himself and the state in its entirety into a mechanical parody of itself. The existential tragedy of the automaton is its lack of self-awareness. Such is the tragedy of Caroline England, Milton seems intent on conveying here, yoked to a servitude that, in concealing ‘how degenerately [it] served’, is like Samson’s at the mill ‘ignoble, / Unmanly, ignominious, infamous, / True slavery’ (*CSP* 372.416-19).

However, if the automaton underpins Milton’s critique of monarchical government, it also seems to inform his republican thought, as I want to suggest in concluding – although I should emphasise at this point that the analogy is mine rather than his. Earlier, we saw how writers and theologians of the mid-century used the trope of the self-regulating *machina mundi* to express divine immanence, asserting that ‘it is also the perfection of [God’s] Work to be in some sort like its Artificer,

⁷⁴ The full passage from *The Readie and Easie Way* reads: ‘The happiness of a nation must needs be firmest and certainest in a full and free Councel of their own electing, where no single person, but reason only swayes. And what madness is it, for them who might manage nobly their own affairs themselves, sluggishly and weakly to devolve all on a single person; and more like boyes under age then men; to committ all to his patronage and disposal, who neither can perform what he undertakes, and yet for undertaking it, though royally paid, will not be thir servant, but thir lord? how unmanly must it needs be, to count such a one the breath of our nostrils, and hang all our felicitie on him, all our safety, our well-being, for which if we were aught els but sluggards or babies, we need depend on none but God and our own counsels, our own active vertue and industrie’. *CPW* 7.361-62.

independent; which is a greater Specimen of his Wisedome'.⁷⁵ According to this theory, the world represented a self-regulating mechanism actuated and governed by an omnipotent, immanent deity. In the Hobbesian account of political organisation, this insistence on a sole governing principle translates to an argument for absolutist government. But at the same time, the automaton also informed what Jonathan Sawday explains as 'a newly defined political relationship, one which was more akin to a republican model than an autocratic model of kingly authority'.⁷⁶ For reasons I discuss below, this view of the automaton rather paradoxically provides an apt analogy for Milton's republican project, allowing us to assess it in relation to Royalist apology, but also to place it in the context of contemporary responses to philosophical and political theories of mechanist determinism.

Sawday argues that increasingly towards the mid-seventeenth century, 'the machine expressed a harmony of purpose and design which was political, as much as it was mechanical. [...] evolving into an example of a regulated, harmonious, communitarian society'.⁷⁷ For instance, in his mechanist account of the bodily organism in the *Two Treatises* (1644), Sir Kenelm Digby (1603-1665) writes that:

in [living creatures], euery [part], requireth to be directed and putt on in its motion by an other; and they must all of them [...] conspire together to effect any thing that may be, for the vse and seruice of the whole. And thus we find in them perfectly the nature of a mouer and a moueable; each of them mouing differently from one an other, and framing to themselues their owne motions, in such sort as is most agreeable to their nature, when that part which setteth them on worke hath stirred them vp.⁷⁸

Here, the various and quite disparate parts that make up the body act autonomously and 'differently from one an other, [...] framing to themselues their owne motions'.

⁷⁵ Henry More, *Divine Dialogues, Containing, sundry Disquisitions & Instructions Concerning the Attributes and Providence of God* (London, 1668), p. 292; Wing M2650.

⁷⁶ Sawday, p. 248.

⁷⁷ Ibid., p. 247.

⁷⁸ Sir Kenelm Digby, *Two Treatises. In The One Of Which, The Natvre of Bodies; In The Other, The Natvre of Mans Soule; Is Looked Into: In Way Of Discovery, Of The Immortality Of Reasonable Sovles* (Paris, 1644), p. 208; Wing D1448. See Sawday, p. 247.

But they nevertheless ‘conspire together’ in harmony ‘for the vse and seruice of the whole’, collaborating to animate and regulate the body without relinquishing or compromising their individual purpose. Later on in the century, Walter Charleton would likewise emphasise that ‘*Mechanic Engines*’, although ‘all composed indeed of gross, solid and ponderous Materials’, are of such

design, contrivance and artifice of their various parts, as that from the figures and motions of them, there result certain and constant operations, answerable to the intent of the Artist, and far transcending the forces of their divided ingredients.⁷⁹

Not unlike Digby’s body-machine, Charlton’s engines overcome the ‘forces of their divided ingredients’ to generate ‘certain and constant operations’. Both writers place particular emphasis on harmony, on collaboration, and on self-regulation. All three principles are the result not of an autocratically enforced principle imposed by a central will or governing authority. Rather, they arise from individual parts ‘framing to themselues their owne motions, in such sort as is most agreeable to their nature’, as Digby maintains. Read alongside Milton’s *Defences* and *The Readie and Easie Way*, these philosophical explorations of mechanism reveal striking parallels with his republican ethos.

As he asserts in the *Second Defence*, personal and political kinds of freedom are inseparable. So are individual and collective forms of self-government in a republican polity:

a nation which cannot rule and govern itself, but has delivered itself into slavery to its own lusts, is enslaved also to other masters whom it does not choose, and serves not only voluntarily but also against its will. [...] If to be a slave is hard, and you do not wish it, learn to obey right reason, to master yourselves.⁸⁰

Like Digby’s and Charleton’s machines, Milton’s doubly oppressed slaves must transcend both the divisive impulses of human nature and ‘its own lusts’ and the rule

⁷⁹ Walter Charleton, *Natural History Of The Passions* (London, 1674), pp. 34-35; Wing S2501.

⁸⁰ CPW 4.684.

of ‘other masters whom it does not choose’ in order to become free agents and true republican citizens. Individual self-government here relates directly to the polity’s ability to regulate itself. This polity is a place where ‘all laws, all rights, all civil government, depend not on the desire of kings but primarily on the well-being of the better citizens’ (*CWP* 4.533). Being what Digby calls both ‘a mouer and a moueable’, Milton’s republican citizens remain unforced in will and action. Rather than to defer to the tyrannical will of one absolute ruler, they choose to collaborate ‘in such sort as is most agreeable to their nature’, that is, by electing such representatives as seem most likely to represent their individual interests for the good of the commonwealth.

A similar analogy between self-regulating machines and political forms of self-government seems to be at work in *The Readie and Easie Way*. Here, in the face of the impending Restoration of Charles II, Milton postulates a governmental mechanism that is both self-regulating, self-governing, and, importantly, self-perpetuating. He states that a republican commonwealth is

therein firmest, safest and most above fortune; for that the death of a king, causeth oft-times many dangerous alterations; but the death now and then of a Senatour is not felt; the main body of them still continuing unchang’d [...], and as it were eternal.⁸¹

As a political institution, the self-electing, albeit decidedly oligarchic, republic of Milton’s imagination resembles the cooperation of machine parts in an automaton, which work together in carefully choreographed harmony to sustain its artificial life. Like the human body in Digby’s mechanist account, and like Charleton’s engines, the republican Senate Milton envisions here ‘[transcends] the forces of [its] divided ingredients’ to form ‘not many sovranities in one Commonwealth, but many Commonwealths under one sovranitie’ (*CPW* 7.385). In Digby’s words, they ‘fram[e]

⁸¹ *CPW* 7.370.

to themselves their owne motions, in such sort as is most agreeable to their nature’.

The sovereignty Milton invokes here is not that of one ruler, but the executive and legislative powers vested in the Senate by popular consent, these being ‘subordinate to the general power and union of the whole Republick’ (*CPW* 7.385).

As already noted, there is nothing in all of this to suggest that Milton thought of the automaton as a working model for republican government. But the parallels between contemporary mechanist accounts of physiological phenomena and Milton’s republican thought are substantial. If they are deliberate, as I would tentatively suggest here, they constitute an astonishing assertion of (literary) self-determination, carrying the fantasy of political and authorial self-sufficiency that is implicit in all of Milton’s prose works into the new and adverse political reality of the 1660s.

CONCLUSION

Like the mechanical prostheses I discussed in Chapter 4, the automaton exerted a particular hold on the political imagination of mid-seventeenth century polemicists, its ambiguous animations in the Parliamentary polemics of the English Civil War registering various literary, political, and religious agendas. This chapter has traced some of these in the works of Milton and several of his contemporaries, especially insofar as they touch upon ecclesiastical and governmental controversies topical in the 1640s and 1650s. In the first part of this chapter, we saw Milton employ the language of automation to mount a concerted attack upon the spiritual and literary hypocrisies perpetuated by the Laudian liturgy and by episcopalian church government. Throughout the anti-prelatical tracts, mechanical imagery associated with the pre-programmed automatic machine serves to expose both of these ecclesiastical institutions as instruments of spiritual coercion incommensurate with

the divine decree of free will upon which Milton's poetics and politics are predicated. Both here and in *Eikonoklastes*, the rhetorical figure (or vice) of tautology enables him to relate spiritual to literary kinds of fraud or artifice, which, in turn, helps him to convict the Laudian church and Charles as its head of spiritual disingenuousness.

In the more radically anti-monarchical regicide tracts, especially in the *Second Defence*, the Cartesian automaton serves to expose a major logical fallacy in the literary premise of Royalist apology. Here, mechanical images and forms of grammatical agency associated with mechanist determinism help Milton to expose some of the most common tropes of Caroline hagiography as self-defeating literary mechanisms. Meanwhile, the *Defences* and *The Readie and Easie Way* grapple with what political radicals perceived as the oppressive political machinery of Stuart absolutism. In these treatises, a crucial difference between self-regulating and externally motivated automata borrowed from contemporary mechanist philosophies illuminates an analogous distinction between private and public forms of sovereignty. For Milton, this marks the line between lawful and unlawful kinds of political governance, or between self-government by popular consent and absolute monarchical rule. Throughout, the figure of the automaton bridges a gap in Milton's polemic between anti-monarchical thought and the republican model of political organisation he espouses in *The Readie and Easie Way*. Ultimately, if early modern prosthetics provides Royalist apologists with a substitute form of literary agency, as I argued in the previous chapter, their distant cousin the automaton affords the Parliamentary opposition with a means of exposing its imaginative limits.

All of this also articulates an important truth about the author as a political agent, suggesting that for Milton, textual production constitutes a political act of self-

determination. Ultimately, his foray into the weird and wonderful world of literary automata invites us to scrutinise the techniques by which we, as literary historians and critics, construct our own ideas about the past. In 1673, looking back upon a substantial career in academic teaching, the Royalist scholar Obadiah Walker (1616-1699) wrote that there are some who

have a *great inclination* to knowledg, running, when once set in the way, either to any, or some one science in particular; [...] able to *raise Conclusions*, gather *Corollaries*; and having the *foundations* laid, *build up* the rest themselves. Others (though few) are as *automata*, *αυτοδίδαχος* [autodidacts], their *own Masters*; and have a *genius*, or somewhat extraordinary, to assist them.⁸²

The automaton's 'ambiguous animations' in the literature of the seventeenth-century not only remind us that ultimately, the literary artefacts of the past are 'their *own Masters*', resisting instrumentalisation – a thought that the Milton of *Areopagitica* would surely have sympathised with. But Walker's automatic scholars also encourage us to broaden our own critical initiatives, for example by seeking out literary and more broadly cultural forms of agency in non-literary texts, as I have attempted throughout this thesis. They suggest that it is not enough to keep 'running, when once set in the way, either to any, or some one science in particular', but that as students and critics we too must, like Milton, aspire to become 'our *own Masters*'. To do so is to acknowledge that words possess lives not only beyond the (literary) text, but also beyond the traditional purview of the literature department.

⁸² Obadiah Walker, *Of Education. Especially of Young Gentlemen. In Two Parts. The Second impression with additions* (Oxford, 1673), pp. 4-5; Wing W400.

CONCLUSION

In his *Novum Organum* (1620), Francis Bacon reminds us that:

Neither the Hand alone, nor an Understanding left to it self, can do much. Things are performed by instruments and helps, which the Understanding needs as much as the Hand. Now as Mechanick Instruments assist and govern the Hands motion, likewise the instruments of the Understanding prompt and advise it.¹

According to him, ‘Understanding’ consists of things to be apprehended by mechanical means on the one hand, and of ideas to be examined by the critical apparatus of reason on the other. As I have sought to illustrate throughout this thesis, early modern machine culture bridges a gap between instruments of the hand and of the mind, between mechanical and rhetorical forms of wit, between *technē* and *poiēsis*. As such, it constitutes an important repository for our understanding of the mutually constitutive processes of textual and mechanical production that shape the period’s literary, religious, and political discourses. The Royalist and Parliamentary polemics of the English Civil War and Interregnum illustrate particularly clearly that, often, machines emblematised and articulated a fantasy of textual (and, as a corollary, political) agency that remains strangely elusive in practical terms. But even so, in many of the texts I have discussed in this thesis, mechanical devices generate stunning literary effects that perform a variety of poetically, politically, and religiously charged functions. As metaphors and allegories, as synecdoches and tautologies, even as textual magnifying glasses of sorts, they encourage Spenser, Jonson, Milton, and their contemporaries to reinvent themselves – and the business

¹ Francis Bacon, *Francissey De Verulamio / Summi Angliæ Cancellarii / Instauratio magna* (London, 1620), pp. 47-48; STC 1162. The translation I use here is the one provided in an abridged version of the text, *The Novum Organum Of Sir Francis Bacon, Baron of Verulam, Viscount St. Albans Epitomiz’d, For a clearer understanding of his Natural History. Translated and taken out of the Latine by M.D. B.D.* (London, 1676), p. 1; Wing B310.

of literary production – in response both to intellectual change, and to political and religious upheaval.

My aim in this thesis has been to chart the ways in which ‘Mechanick Instruments’ of various kinds interacted with – and upon – ‘the instruments of the Understanding’. To that end, I postulated a mutually sustaining relationship of text and machine in the period, bringing the tools of literary analysis to bear on both textual and technological artefacts. I sought thereby to uncover some of the less well-explored literary lives of machines in the hundred or so years that separate the reign of Edward VI from the Restoration of Charles II. This strategy has clearly revealed that mechanical artefacts in their material and textual incarnations participated substantially in the construction and articulation of literary, political, and religious identities.

I started this thesis by attempting what can be termed an instrumental history of Tudor politics in the second half of the sixteenth century, exploring some of the ideologically charged functions that mathematical instruments including astrolabe and globe could be made to perform. In the first part of Chapter 1, we saw the Molyneux globes give material shape and political currency to contemporary dreams of imperial expansion. By weighing the narrative of geopolitical expansion inscribed upon the surface of Molyneux’s terrestrial globe against their reception in contemporary commentaries by mathematicians, geographers, and even Queen Elizabeth herself, I sought to shed new light upon some of the mutually sustaining – and mutually vexing – relationships between political and instrument-making cultures in the period. In the second part of the chapter, I extended this method to include some of the Tudor era’s most iconic astronomical instruments, arguing that as specialist tools associated with exclusive kinds of knowledge they lent themselves

particularly well to the communication of intellectual and political virtues. We saw the fall of Protector Somerset and the rise of the Duke of Northumberland cast long shadows over the artificial universe presented to Edward VI in 1552 in the form of a Gemini astrolabe. We read about Robert Devereux's self-transformation from soldier into statesman in the gilded-brass pages of his astronomical compendium. And with the Earl of Leicester, we paid homage to England's new Protestant queen. As I demonstrated throughout, together these devices constitute important documents of political change and ideological power-play in the formative years of the English Renaissance, with important implications for our understanding of the construction and perpetuation of political identity in the period.

For Spenser, the appeal of the machine lies primarily in its use as a metapoetic device, bridging the gap between reason and imagination within which allegory was thought to operate. Throughout *The Faerie Queene*, the word 'engine' and etymologically related concepts of ingenuity (*ingenium*) or poetic wit generate what could be termed a variety of allegorically charged alienation effects. As I illustrated in my case studies, these serve to distance the poem's moral allegory from the mechanisms of its own production and thus help Spenser to negotiate the potentially dangerous gap between image and idol that vexed the literary project of post-Reformation England. In Books I, II, and V in particular, military engines, automata, terrifying robots, and precision instruments act as constant reminders of the ways in which the poet's *ingenium* circumscribes his readers' response, inviting us to think both with, and about, the images that *The Faerie Queene*'s allegory conjures in our imagination. Ultimately, for Spenser to mine the various etymological, literary, and political associations encoded in the word engine and related mechanisms invoked throughout the poem is not only to recuperate a

legitimate form of poetic making, but also to reconcile political reality with poetic ideality.

If allegorical and etymological notions of the early modern engine provide Spenser with a means of reinventing allegory for a Protestant readership, Jonson engages with the machine mainly from a position of carefully maintained distance. In Chapter 3 I argued that his interest in – and hostility towards – Cornelis Drebbel's magico-mechanical devices reflects above all changing attitudes towards textual and visual cultures. As we have seen, these were precipitated by new ideas about the nature (and place) of invention in early seventeenth-century culture, by the advent of Galilean astronomy, and by a number of new and spectacular visual technologies. Throughout, I compared the various metaphorical, scientific, and political narratives that accrued around Drebbel's perpetual motion machine, his telescope, and his magic lantern with Jonson's assessment of their impact on the Jacobean court.

In the first part of my chapter, I sought to extend our understanding of the *perpetuum mobile*'s political and literary implications by placing it in the context of Jonson's 1615 masque, *Mercury Vindicated*, where we saw it underpin a poignant analogy with a corresponding socio-political fiction. In *News from the New World* (1620), meanwhile, Jonson exploits the epistemological uncertainty generated by the technology of the telescope and by Galilean astronomy, respectively, to remake scientific discovery into an instrument of poetic invention. In *Augurs* (1622), finally, we saw Drebbel's magic lantern prompt a witty exploration of the growing tension between visual representation and poetic conceit both in masque as a literary genre and in Jacobean culture more widely. Throughout, Jonson's conflicted relationship with Drebbel and the self-validating narratives of cultural and political authority attaching to his magico-mechanical devices registers related battles for

interpretational control over the natural, literary, and political worlds of Jacobean England.

In Chapter 4, I investigated the metaphorical applications of early modern prosthetics – specifically, of mechanical hands – in Royalist narratives of the Civil War and Interregnum. As we have seen, for early modern surgeons the human hand represents a unique symbol of intellectual and political agency. By the same token, prosthetic hands are thought to restore not only physiological function, but also a sense of psychological wholeness that reflects on a person's private and public identities. In the Royalist polemics of the mid-century, rhetorical and surgical notions of prosthesis combine with classical and biblical tropes of iron-handed rebellion and iron-handed justice to give rise to new and surrogate forms of textual agency. Inspiring what I term a metaphors of dismemberment, mechanical (iron) hands provide a particularly suggestive source of imagery for Royalist critiques of Parliament, the Commonwealth, and the Protectorate. Capitalising upon the notion of physical and psychological restoration implicit in the surgical discipline of prosthetics, Royalist writers across the political spectrum exploit its metaphorical potential to (re)construct and narrate Royalist identity, to vindicate Stuart rule, and to rearticulate military and political defeat as spiritual triumph. At the same time, mechanical hands underpin Royalist invective against the Cromwellian administrations of the 1650s. Here, they serve to portray the English republic as an unnatural and artificial graft upon the nation's mutilated monarchical body politic. Throughout the period, Royalist polemicists look to early modern prosthetics in order to turn the traumatic dismemberment of Stuart England into a redemptive narrative of political and spiritual restoration.

If the discipline of early modern prosthetics furnishes Royalist polemicists with a strategy for reclaiming political agency through textual production, Milton has particular use for the appearance or pretence of self-motion implicit in the automaton, which inspires a polemical counter-narrative in his religious and political prose. In the anti-prelatical tracts, the self-moving machine gives rise to a variety of mechanical images and rhetorical figures closely associated with related forms of spiritual and literary fraud, informing Milton's polemical attack upon the Laudian liturgy and upon the episcopacy as Caroline instruments of spiritual coercion. At the same time, the automaton also lends impetus to Milton's attack on Charles, for instance in *Eikonoklastes* and in the *Second Defence*. Here, related acts of literary plagiarism and spiritual disingenuousness blend seamlessly in his strategy for discrediting the Royalist project of hagiography. In the regicide tracts, meanwhile, the figure of the automaton bridges the gap between Milton's anti-monarchical thought and the republican model of political organisation he espouses in *The Readie and Easie Way*. As portrayed by Milton, both the Caroline monarchy and its forms of textual production represent self-defeating and ultimately self-limiting literary and political mechanisms. For him, as for all of the engineers, inventors, poets, and writers I have discussed in this thesis, the cultural and socio-political mechanisms that sustain early modern power in its various forms often seem beyond the individual's ability to influence or control. But as my five individual case studies have shown, its textual machinery is not. For Spenser, Jonson, and Milton in particular, to uncover the metaphorical and polemical potential of machines is to (re)discover the power of the written word.

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